THE ROLE OF PROFESSIONAL DEVELOPMENT AS A MEDIATOR IN THE RELATIONSHIP BETWEEN TEACHER LEADERSHIP AND TEACHER PERFORMANCE AMONG GENERATION Y TEACHERS IN MRSM

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By
WAN SUHAILA BINTI WAN YAACOB

Awang Had Salleh
Graduate School
of Arts And Sciences

Universiti Utara Malaysia

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Abstrak

Guru yang mengamalkan kepimpinan guru mempamerkan pengetahuan, kemahiran dan tingkahlaku yang sesuai sebagai guru berprestasi tinggi. Pembangunan profesional dengan aktiviti yang tetap dan berterusan adalah konstituen utama untuk meningkatkan kepimpinan guru dan prestasi guru. Penyelidikan lampau telah mendedahkan penemuan yang bertentangan tentang kepimpinan guru dan kebanyakan kajian tentang prestasi guru berfokus kepada guru yang berprestasi rendah yang kurang mendapat peluang mengikuti program pembangunan professional. Kajian ini bertujuan untuk meneroka hubungan antara kepimpinan guru dengan prestasi guru dan peranan pembangunan profesional dalam hubungan ini dalam kalangan guru generasi Y di MRSM. Secara khususnya, penyelidik menilai tahap kepemimpinan guru, pembangunan profesional dan prestasi guru. Bagaimana kepimpinan guru mempengaruhi prestasi guru dan peranan pembangunan profesional sebagai mediator dalam hubungan antara kepimpinan guru dan kinerja guru juga dikaji. Kajian kuantitatif ini melibatkan 350 guru generasi Y di MRSM yang dikenalpasti melalui persampelan rawak berstrata. Data dikumpul melalui soal selidik dan dianalisis secara teratur untuk meningkatkan kesahihan penemuan dan tafsiran. Penemuan penyelidikan menunjukkan bahawa kepimpinan guru dan prestasi guru berada di tahap tinggi dalam kalangan guru generasi Y di MRSM, walaupun menunjukkan tahap sederhana untuk pembangunan profesional. Penemuan yang berbeza ini telah menunjukkan perbezaan yang signifikan dalam tahap prestasi guru, pembangunan profesional dan prestasi guru dalam kalangan responden berdasarkan beberapa aspek demografi. Penemuan ini juga mendedahkan domain kepimpinan guru dan pembangunan profesional yang sangat mempengaruhi prestasi guru. Di samping itu, penemuan ini juga menunjukkan pembangunan profesional memainkan peranan sebagai mediator dalam hubungan antara kepimpinan guru dengan prestasi guru. Berdasarkan penemuan ini, disarankan agar program pembangunan profesional dilaksanakan secara efektif dari segi penyertaan, pengisian program dan sokongan pihak pentadbiran untuk meningkatkan kepemimpinan guru bagi melestarikan kinerja guru dalam kalangan guru generasi Y di MRSM.

Kata kunci: Kepimpinan Guru, Prestasi Guru, Pembangunan Profesional, Guru Generasi Y

Abstract

Teachers practising teacher leadership exhibited knowledge, skills and disposition worthy of highly performing teachers. Professional development with sustained and regular activities was the core constituent for improving teacher leadership and performance. Past research has revealed conflicting findings on teacher leadership and most studies on teacher performance focused on underperforming teachers who were deprived of professional development programmes. This research aimed to explore the relationship between teacher leadership and teacher performance and the role of professional development in this relationship among the generation Y teachers in MRSM. Specifically, the researcher examined the level of teacher leadership, professional development and teacher performance. How teacher leadership influences teacher performance and the role of professional development as a mediator in the relationship between teacher leadership and teacher performance were being studied. This quantitative study's participants were 350 generation Y teachers in MRSM who were identified through random, stratified sampling. Data were collected via questionnaires and were analysed thematically to increase the validity of the findings and interpretation. Research findings indicated that teacher leadership and teacher performance were at a high level among generation Y teachers in MRSM yet shown an average level for professional development. These different findings seemed to relate to the significant differences in the level of teacher performance, professional development and teacher performance among the respondents based on several demographic aspects. The findings also revealed the domains of teacher leadership and professional development which significantly influenced teacher performance. The findings also showed professional development played the mediating role in the relationship between teacher leadership and teacher performance. Based on the findings, it is suggested that professional development programmes are implemented effectively in terms of participation, content and support to increase teacher leadership in order to enhance teacher performance among generation Y teachers in MRSM.

Keywords: Teacher Leadership, Teacher Performance, Professional Development, Generation Y teachers.

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Praise be to Allah the Almighty for His gift bestowed upon me that I am able to complete this thesis within the time frame that has been planned.

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My hope is that this thesis will give benefits not only to MRSM but also to MARA as a whole. May all educators benefit from this writing in enhancing their knowledge and teaching skills.

Thank you.

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CHAPTER ONE
INTRODUCTION

1.1 Introduction

The fourth Industrial Revolution has grown to incorporate not only commerce affairs but also workforce and society itself. The workforce of the next century are now at the level of secondary education and they must be prepared with the requirements of the workforce in the Industry 4.0 era. They need to have the skills to interact between networks and work together more effectively. They need to be able to adapt to new conditions and are required to make prediction rather than show reaction (Cotteleer & Sniderman, 2017). Who would play the role better in equipping these future workforce with all the skills needed none other than teachers in educational institutions? These youngsters are classified as Malaysia most precious assets as workforce. Successful youths, as future workforce, at educational institutions are very much dependant on the quality of teachers teaching in the schools which are effective (Darling-Hammond, 2000).

There are many factors influencing effective schooling and effective teaching is one of them (Davis & Thomas, 1989). How does a school improve on its effectiveness in teaching? A concerted effort by the school administrators and dedicated teachers are required to increase student performance. When the students performed, the teacher performance is also labelled as excellent. Student performance is the product of teacher performance (Davis & Thomas, 1989). Suffice to conclude that the fundamental determining factor that brings about the success or failure of schools in embracing the requirements of Industry 4.0 by producing the high performing workforce is the teacher.

Teacher performance is a predictor to student success (Darling-Hammond, 2010) due to the fact that teachers are the agent of change and they guide the school development and improvement (Harris, 2003). When they teach effectively, their performance will increase (Hamre et al., 2013). Teacher effectiveness refers to the efficient interactions between teachers and students in the classroom based on several domains such as emotional support, classroom management, classroom organization and instructional support to name a few (Hamre et al., 2013). Thus, it is utmost important that teachers perform to the best of their ability in their teaching career.

There are domains of teacher performance which help schools to evaluate how well their teachers are doing in the teaching and learning session. For example, Jackson Public School (1999) has outlined five domains in which teacher performance is evaluated in order to achieve student success namely the teaching techniques, skills to plan their lessons, effective communication, evaluations of their teachings and feedbacks about themselves to be shared by everybody and a vast control of knowledge of curriculum and subject matter.

Emphasizing the importance of teacher performance, the Hawaii Teacher Performance Standards were set up in 2011 and revised in 2014 (Hawaii Teacher Standards Boards, 2014). It is said that teacher performance focuses on ten standards which can also be perceived as domains of concerned in order for a school to perform well. The domains are the learner development, learning differences, learning environments, content knowledge, application of content, assessment, planning for instruction, instructional strategies, professional learning and ethical

practice and leadership and collaboration. The stress on these domains demonstrates the relevancy of teacher performance in an educational institution.

Malaysia is also on the same track in making the educational institutions having exceptional performance. *Standard Kualiti Pendidikan Malaysia Gelombang 2* (SKPMg2) is designed to make sure that the teachers fulfilled these standards which again can be perceived as domains in which teachers should perform well (Jemaah Nazir dan Jaminan Kualiti, 2017). SKPMg2 are planned out to be an instrument to evaluate teacher performance which is action and evidence based and quality emphasized. Among the domains evaluated are 1) leadership; 2) organizational management; 3) curriculum, co-curricular and students' affairs management; 4) learning and facilitating; and 5) student development. These domains are to ensure that the teacher performance is exceptionally exemplary so as to uphold the tenth initiative of the Malaysia Education Blueprint 2013-2025.

Professional development is an issue debated since 1960s to maintain and improve performance (Golding & Gray, 2006; Jasper, 2006). It is a learning session to earn or maintain professional credentials and is implemented in many forms including formal courses, conferences and informal learning opportunities some of which are consultation, coaching, lesson study, mentoring, supervision and technical assistance (Speck & Knipe, 2005). Garet, Porter, Desimone, Birman and Yoon (2001) believe that professional development may be formal or informal and is performed to individual or group. This means in order to guarantee high performance, approaches such as case study method, consultation, coaching, lesson-study, mentoring and reflective supervision should be applied. This is to say that professional development

has some degree of influence on the performance of individuals such as teachers. Garet et. al. (2001) conclude in their journal *What makes professional development effective? Results from a National Sample of Teachers*, teachers who are involved in professional development will heighten their process and task skills which are labelled as leadership skills. It seems that professional development is influencing teacher leadership.

Teachers should portray teacher leadership since the Ministry of Education in Malaysia has pointed out the importance of distributive leadership in educational institutions (Kementerian Pendidikan Malaysia, 2013). The reason for distributive leadership is to materialize the transformation of leadership at school level. When leadership is not only perceived as the administrators' responsibility but also regarded as everybody's duty, the authority to make decisions by many is increased. With the authority, teachers would feel that their passion for the job is increased and they would have greater ability to implement necessary changes in the schools in order to increase students learning and teachers' professionalism. Teacher leader model standards have put a stress on the teacher leadership qualities in teachers in order for them to perform better (Berg, Carver & Mangin, 2014).

In accordance to the findings thus far, there is a relationship between teacher leadership and teacher performance. The issue to be discussed is the function of professional development in the relationship between teacher leadership and teacher performance. Does professional development mediate the relationship between the two variables.

1.2 Background of Research

Leadership has evolved a lot especially in education. Traditional leadership believes that leadership lies in the single individuals at the top of an organization (Thorpe, Gold and Lawler, 2011). These leaders are perceived as having the tone setter and the makers of all the key decisions. They are looked up to and being followed by the people in the organization. Repeated researches have shown that the impact these individual leaders have is very moderate (Harris, 2003; Gronn, 2000; Spillane, Halverson & Diamond, 2004). Organizations have experienced rapid change and soon it is discovered that the top-down models of leadership have limitations. Focus has been shifted to collective forms of leadership which is known as distributive leadership (DL) (York-Barr & Duke, 2004). DL is related to the concepts of participation, empowerment, engagement and delegation. Thorpe, Gold and Lawler (2011) define DL as a variety of configurations which emerge from the exercise of influence that produces interdependent and conjoint action. Generally, what makes an organization achieve excellent performance are the characteristics, behaviours, styles and outcomes of the work of individual agent in the organization as leaders—'the professional work of everyone'. In the school context, individual agent would be the teacher and so the idea of 'teacher leadership' is manifested. It is DL in action where through collaboration and scholarly ways of working, all teachers can take the lead and provide changes to the educational institution.

Showing his agreement, Bolden (2011) believes that DL is not something 'done' by the top individual 'to' the members of the organization but rather it is a group activity that works through and within relationships. Individual teacher makes the organization. These teachers work in the organization (educational institution) and

they create relationships among the members. Bolden (2011) further enhances his finding by concluding that the quality of their work is a product of a set of functions which must be carried out by the group and that is perceived as leadership. Gronn (2000) has the idea that once leadership is distributed among the teachers, the school can perform with the absence of leaders. He believes that leadership is an instance of influence and influence is reciprocal. Any teacher leader that does well will influence the other teachers to perform better. Other teachers observe better performance of others will be influenced to function better. To conclude, leadership being distributed among the teachers is a phenomena where leadership qualities are in existence in each individual teacher.

Teachers who practise teacher leadership take on the leadership responsibilities in terms of curriculum, subject specialists, mentoring and others. Thorpe, Gold and Lawler (2011) in their research find that school leaders are important to a school success but the impact was indirect and mediated by others. Teachers work is among the key intermediate factors. The Teacher Leadership Skills Framework (2009) has made a clear connection between teacher leadership and how it gives a remarkable influence on teacher performance. In conclusion, leadership distributed among teachers (teacher leadership) proves to give impact directly on school outcomes—student outcomes and teacher outcomes (teacher performance).

Teacher performance perception has changed from the 1940s when teachers delighted in the high degree of authority and trust to do what is best for the students (Jones, Jenkin & Lord, 2006). Now, the performance of teachers is parked under the spotlight. In the Malaysian Government's devotion to increase student performance,

the teachers are expected to increase their teaching ability and performance so much so that student outcome is guaranteed (Kementerian Pendidikan Malaysia, 2013). In order to ensure positive teacher performance, teachers are envisioned to serve as positive role models contributing to the team members and acting as commendable mentors (Jackson Public Schools, 1999). There are domains set by many which should be followed by teachers to make certain of satisfactory teacher performance.

For example, The Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) (2003) stresses on the teacher performance as being the crucial element in school effectiveness and thus sets several domains for teacher performance. Among others, specific aspects of teachers' work such as the domains of professional knowledge, professional practice, professional values and professional relationships are the key point areas of teacher performance.

In Malaysia, *Standard Prestasi Pegawai Perkhidmatan Pendidikan* (2016) was designed in the interest of increasing teacher performance. The standards focus on several domains which are the practised values of teacher professionalism, knowledge and understanding, creativity and innovation, strategic collaboration, communication, and teaching and learning skills. Malaysian teachers who meet the standards of these domains will be considered as having uplifted teacher performance (Saedah Siraj & Mohammed Sani Ibrahim, 2012). Should the teacher performance be evaluated as being high, it would have a transformative effect on the school and students performance (Guarino, Reckase & Wooldridge, 2012)

Professional development has become prominence since 1960s (Murphy-Latta, T. (2008). It is a meaningful engagement in training provided for teachers to improve their performance. It is also referred to a variety of specialized training which can be considered as either formal or informal, advanced professional learning with the intention of helping teachers to enhance their professional knowledge, competency, and skills making them effective teachers with high performance (The Glossary of Education Reform, 2017). It may also come in the form of pre-service or in-service activities done individually or in groups which means each person may pursue professional development independently or in some cases, programmes are offered by the human resource departments. Garet, Porter, Desimone, Birman and Yoon (2001) believe that professional development may enhance or develop process skills such as effectiveness skills, systems thinking skills and team functioning skills and sometimes professional development may increase task skills.

However, according to a report by the Sutton Trust, entitled *Developing Teachers: Improving professional development for teachers* (2015), authority has expressed their apprehension when professional development is seen as some events to fulfil the requirements of training days needed and not as an important part of every educator's career as claimed by many (Garet et al., 2001; Murphy-Latta, T., 2008; The Glossary of Education Reform, 2017). Broad and Evans (2006) point out that education is the only career path that has few standards or frameworks for professional development making it less effective.

Firestone, Mangin, Martinez and Polovsky (2005) point out that professional development, if organized with intelligible purposes and targeted on relevant content

matter will strengthen the aspect of teachers' knowledge, not the overall teacher performance. Furthermore, Boylan (2016) starts off his research on *Enabling adaptive system leadership: Teachers leading professional development* with the finding that there is an increasing insistence on professional development. This proves that teachers are concerned about their professional development and are now taking matters of their professional development into theirs hands to decide what effective professional development does and does not look like (Yendol-Hoppey & Dana, 2010).

To sum it up, there is an importance in inculcating and developing teacher leadership among the teachers with the purpose of having teachers being more responsible in terms of curriculum, subject specialists, professional development and other domains of their performance. With this, their performance is hoped to increase. There is also a need to have a research on professional development and to identify how it can help teachers in terms of their teacher leadership skill and their performance.

The context of this study has been limited to Maktab Rendah Sains MARA (MRSM) in its effort to look into the teacher leadership, teacher performance and professional development. Malaysia Education System has allowed the establishment of a few categories of schools namely government schools, government-aided schools and private schools according to Education Act 1966 (Malaysia, 1966). Maktab Rendah Sains MARA (MRSM) is boarding schools under the category of private schools. These schools are established in 1972 under the *Majlis Amanah Rakyat* Act 1966 (1966), nonetheless are not subjected to the Ministry of Education since the schools are under the governance of Ministry of Rural Development. The main objective of

MRSM establishment is to achieve excellent academic performance, balanced personality traits, entrepreneurial tendencies and physical fitness in order to create students with critical, creative, open, healthy, broad-minded thinking, and having high patriotism and nationalism. The vision of MRSM is to become the center of innovative and world-class educational excellence while the mission of MRSM is to provide high potential *bumiputera* students in science and technology. In order to achieve this objective, vision and mission, teachers of MRSM will have to increase their professionalism and integrity level (Buletin MARA, 2013) which are all related to teacher performance.

To date, there are 54 MRSMs and 3528 teachers hired to make sure these education institutions perform successfully. The increment in the number of MRSM denotes the gaining of interest in boarding schools. Since its establishment, many teachers come and go due to retirement age or simply looking for greener pasture. At present, there are 83.4% generation Y teachers working in MRSM and many are due to come in because this group of people has reached the entry point for career world and those generation Y who are already working are still new (Behrstock & Clifford, 2009).

The generation Y teachers in MRSM have undergone professional development programmes such as MARA On-Boarding (MOB) which acts as an intergration and adaptation programme for the new teachers (induction programme), *Program Transformasi Minda* (PTM) which is designed to further develop the generation Y teachers with knowledge and positive work culture before they are confirmed in their posts, and other mandatory as well as value-added professional development

programmes to ensure that these teachers perform (Learning & Development Program Calendar, 2018).

This research will focus on the teacher leadership of Generation Y MRSM teachers and to see whether or not this teacher leadership is contributing to their performance as they are the majority of teachers teaching in these schools throughout Maaysia. Since there are many professional development programmes designed and implemented for the generation Y teachers, this research is going to look into the professional development role in the relationship between generation Y MRSM teacher leadership and performance.

1.3 Problem Statement

IR4 has demanded so much of the teachers teaching in schools. Jerald (2009) in his report on *Defining a 21st Century Education* concludes that the world of education is experiencing changes. Teachers can no longer be satisfied with less demanding multiple choice tests or be happy with teaching factual knowledge and routine skills such as skills to answer examination questions. They are urged to make instructional change in order to produce students who are able to face challenges of the next century (Halah Ahmed Alismail & Mc Guire, 2015). Malaysia is also affected by this change. The quality of Malaysian student achievement at international level is underperforming such as the results of *Programme for International Student Assessment* (PISA – 2012) and *Trends in International Mathematics and Science Study* (TIMSS – 2011). Though there is an increment in the latest achievement, it is too menial to be considered as achievement (TIMSS – 2015).

MRSM students are also affected by this circumstance. Since the emphasis has been riveted to higher order thinking skills (HOTS), teachers are expected to change their instructions by including the seven main elements of HOTS in their working perspectives namely curriculum, assessments, pedagogy, co-curriculum, community and private support, resource and capacity building (Kementerian Pendidikan Malaysia, 2014). MRSM students' performance has shown a downtrend of achievement in Sijil Pelajaran Malaysia Examination (Analisis Keputusan Peperiksaan Sijil Pelajaran Malaysia Maktab Rendah Sains MARA, 2016). Table 1.1 shows the achievement of MRSM students for SPM from 2010 to 2018.

Table 1.1

MRSM SPM achievement 2010 - 2018

Year	Grade Point Average (GPS)
2010	1.8571
2011	1.7933
2012	1.9847
2013	2.0190
2014	2.1851
2015	2.3329
2016	2.4724
2017	2.248
2018	2.46

Source: Secondary Education Division, MARA

From the table, the College Grade Point Average (GPS) is decreasing since 2011 until 2016. Up a bit in 2017 but dipped down again in 2018. This is reflective of the

teacher performance whereby student achievement is a transformative effect of the essence and results of the teaching and learning sessions (Guarino, Reckase & Woodridge, 2012).

What is the level of MRSM teacher performance? One of the ways to measure performance is through performance assessment (Ab Aziz Yusof, 2008). Darling-Hammond (2010) pronounced that performance assessment that measures what teachers actually do in the classroom is a more powerful tool to evaluate teacher performance in teaching which in the end will guide teachers to perform better.

Teacher performance should be measured from time to time (Reinhorn, Johnson & Simon, 2010) not because schools administrators are keeping a tab on the teachers, but more so for the reason of ensuring teachers are performing in the domains expected by educational institutions (Middlewood & Cardno, 2001). This is due to the directly proportional relationship between teacher performance and student achievement (Teacher Status in Findland, 2017). Students achieve better results when the teachers are performing better. When the teacher performance is assessed, there are domains set to maintain certain degree of the so called better performance. The criteria set in each domain should be practised by teachers so as to enhance their performance.

Standard prestasi pegawai perkhidmatan pendidikan (2016) plays the main role in being the benchmark of teacher performance in Malaysia. SKPMg2 is also executing the same role. MRSM teachers' performance is evaluated by the domains set in the *Standard Amalan Pendidikan MARA* (Majlis Amanah Rakyat, 2000). Three domains

of the *Standard Amalan Pendidikan MARA* deal with professional practice of MRSM teachers, professional development of MRSM teachers and professional relationship of MRSM teachers. Other nations worldwide also agree that teacher performance, which must be in accordance to the domains of standard set, must be the predominant issues of concern for educational institutions in order to improve the student performance (Ministerial Council on Education, Employment Training and Youth Affairs, 2003; European Commission, 2013; The Sutton Trust, 2015; Hawai'i Teacher Standards Board, 2014).

However, with the influx of the generation Y teachers in the MRSM, their performance is yet to be observed. Over the years since the establishment of MRSM (1972), many teachers have retired and their positions are taken over by the generation Y to this date (Bahagian Sumber Manusia MARA, 2017). Being the bulk of the teacher community in MRSM, it is questionable as to whether generation Y MRSM teachers are giving a positive effect on the student performance or not. This doubt stems from several researches proving that the millennials (generation Y) predisposition and behaviors such as their communication orientation and skill have negatively affecting their performance (Myers & Sadaghiani, 2010; Lieber, 2010). There are very scarce research on MRSM teacher performance, specifically the generation Y teachers in MRSM. A research on the novice teachers (who mostly are generation Y teachers) induction programme in MRSM has shown that beside induction programme, there are professional development programmes held for teachers namely the mentoring programme and informal post-induction programmes but these programmes are not implemented in a well structured manner resulting in these teachers feeling not being supported by the administrators as well as the

teachers in school which leads to them not being able to perform well (Suhana Md Yusoff, 2013).

There are in actuality, underperforming teachers regardless of the proved importance of teacher performance be it in any schools as well as in MRSM (Futernick, 2010; Farrell, 2016; Suhana Md Yusoff, 2013). In the performance report on *Managing Teacher Performance in Government Schools*, (2010), the Victorian Auditor-General's Office has concocted the scope of improving teacher performance management due to the existence of underperforming teachers. Mendez (2009) has identified the existence of underperforming teachers in New Mexico and classified them under the categories of underperformance in the classroom, misconduct, criminal behaviour, tardiness and unjustified absence. Malaysia Public Service Department has issued a circular on procedures to handle the underperforming civil servants—teachers included, in order to affirm the stand that teacher performance is the core business of educators (*Surat Pekeliling Perkhidmatan Bilangan* 4, 1998). Underperforming teachers have become an enormous threat to the school effectiveness (Jones, Jenkin & Lord, 2006).

Malaysian Education Development Blueprint 2013-2025 (PPPM) has shown a difference in the report for teacher performance. The perception of schools regarding the teaching practice of teachers is at 65% efficient. Nonetheless, *Jemaah Nazir dan Jaminan Kualiti* (JNJK) has presented a report stating the real fact that the performance of teachers in terms of teaching practice is at 13% efficiency. *Akademi Kepimpinan Pengajian Tinggi* (AKEPT) has reported their finding on the quality of teaching among teachers being only 12% at a high standard (Kementerian

Pendidikan Malaysia, 2013). In conclusion, teacher performance, based on the data above, is still at a lower level and in need of improvement initiatives. As far as MRSM teachers are concerned, what is their performance level? Nor Adzimah Subirin et al. (2018) have identified the need for teachers in MRSM specifically MRSM implementing Ulul Albab programme to play their roles in educating, guiding, facilitating and monitoring the students in order to achieve the quality of educational processes. Indirectly, this shows that the teachers are not performing the roles to deliver the curriculum. The deterioration of the student performance in MRSM for the past four years (Analisis Keputusan Peperiksaan Sijil Pelajaran Malaysia Maktab Rendah Sains MARA, 2016) has posed a question as to whether or not these generation Y teachers are contributing to this decline.

Could teacher leadership help to increase these generation Y teacher performance? Teacher leadership is a facet of educators that has been accentuated as a must have quality in teachers (York-Barr & Duke, 2004) in order to perform well. Those with leadership qualities will demonstrate knowledge, skills and disposition worthy of effective teachers (Organisation for Economic Co-operation and Development, 2009). At a glance, it can be concluded that teachers with traces of leadership skill will be categorized as having a set of dispositions and attitudes such as integrity, high efficacy and content knowledge. They are open-minded and accept criticism by reflecting on their experiences and learning from it. Lattimer (2007) believes that teacher leaders contribute exceedingly to an educational institution. They are respected for their knowledge and experience. They contribute to the development of professional teacher community, show understanding of student needs and embrace critical reflection. This means teacher leadership happens when there is a process by

which individual teacher or rather teachers working together, influence their team workers, principals and the community to improve teaching and learning practices with the objective to increase student learning and performance (York-Barr & Duke, 2004). Thus, it can be concluded that teacher leadership is one of the core factors that contributes to teacher performance which in the end leads to high school performance.

However, the constructs of teacher leadership are not well defined (Angelle & DeHart, 2011) and it seems that few literature discuss how to develop teacher leadership and whether or not teacher leadership affects teacher performance (York-Barr & Duke, 2004; Berry, Daughtrey &Wieder, 2010; Sugg, 2013). Angelle and DeHart (2011) identify teachers in middle and high schools to have lower level of teacher leadership in contrast to teachers in elementary schools. If this is the case with the Generation Y MRSM teachers who are teaching in the category of high schools, can teacher leadership influence their performance? Or is there a mediator that bridges these two in order to achieve human capital (teachers) that meet the standards of the Malaysia Education Blueprint 2013-2025? Although most literature supports the positive effects of teacher leadership upon schools (Villiers & Pretorius, 2012; Cheng & Szeto, 2016), no published researches are found on the nature and impact of teacher leadership within the context of MRSM teachers, specifically the Generation Y teachers.

Professional development (PD) is said to be the main constituent for improving education (Guskey, 2002). PD which is defined as a systematic effort to bring about change in the classroom practices of teachers, in their attitudes and beliefs and most

importantly in the student learning outcome (Guskey, 2002), will bring about the development of teachers beyond their early training to become effective teachers (Organisation for Economic Co-operation and Development, 2009). When they are acknowledged as effective, their morale and commitment towards improved school performance will be increased. It is also said that the most effective remedy for teacher attrition is professional development (Brill & McCartney, 2008). Hence, professional development with access to technical skills, higher order thinking skills and knowledge, sophisticated tools and other needs to develop the teachers is definitely a necessity in the world of education (Archibald, Coggshall, Croft & Goe, 2011). DeMonte (2013) also agrees that high quality of professional development programmes designed for all teachers will be a supporting factor for the teacher training which results in the improved student learning.

Nonetheless, there are several conflicting discoveries regarding professional development in contrast to the findings of DeMonte (2013), Brill and McCartney (2008), Archibald, Coggshall, Croft and Goe (2011) and others. Konrad and Gabrijelcic (2014) believe that professional development is not a necessity due to the knowledge acquired from the programmes is not adequate to be taken as guidance to face perplexing and uncertain scenarios of 21st century society. This means that professional development innitiatives designed and implemented so far have not been contributing much to develop teachers' knowledge for them to face the challenges in the 21st century learning. In other words, the professional development of teachers are not effective. Nor Adzimah Subirin et al. (2017) in their research, insist for proper professional development programmes for teachers of Ulul Albab Programme in MRSM so as to ensure that the teachers are able to be the right role

model for the students. In their other research, they call for professional development which considers teacher training and learning environment (Nor Adzimah Subirin et al., 2018).

The model for teacher professional development has not changed according to Dorph and Holtz (2000) based on the focus of PD mostly being one-shot workshops, focusing on generic strategies or subject matter and being disconnected from the teachers' work among others. Though professional development may have been the most essential aspect of the teacher support system, it has been the most falteringly executed (Archibald et al., 2011).

The Ministry of Education Malaysia has put a priority on competency development of teachers in schools and so has designed the Continuous Professional Development Plan (for teachers and School Leaders) in 2014 (Kementerian Pendidikan Malaysia, 2014). This plan is based on two components of professional development activities namely in-service training and staff development training. The aspiration of this professional development plan has been laid out from 2013 to 2025 divided into three waves. Wave 1 ranging from 2013 to 2015 focused 84% of the programmes initiated by the Ministry of Education and 16% by the schools or individual teacher. Wave 2, ranging from 2016 to 2020, will bring about less involvement of the Ministry of Education with only 60% of the programmes are handled by them. By the third wave, the Ministry foresees the professional development programmes as 60% initiatives from the school or individual teacher. The current practice of professional development poses a few challenges such as 1) courses or activities are handled mostly by the Teacher Education Division of the Ministry of Education

Malaysia, 2) initiatives are in the form of one-off programmes, 3) training data of teachers are not comprehensive and 4) recording is not systematic (Kementerian Pendidikan Malaysia, 2014). This practice has been adopted by MARA to be implemented by all divisions in MARA including MRSM which is under the Secondary Education Division.

As far as MRSM teachers are concerned, there are initiatives for their professional development programmes which are handled by MARA Human Resource Division (BSM), MARA Training Excellent Institution (ILKM) and MARA International Teacher Training Institution (IALKM). These institutions plan and design professional development programmes for all MARA teachers and staff consisting of talent development programmes, value-added programmes, capacity development programmes, mandatory programmes, functional programmes and generic programmes (Majlis Amanah Rakyat, 2018).

On top of that, each MARA centre has to organize in service training for its members in order to ensure that every teacher and staff would have at least 7 days of training for each year. Each MARA centre has to keep an updated record of the days each teacher or staff attending any professional development courses. The problem arises when the list of professional development programmes offered by BSM, ILKM, IALKM and the centre itself do not take into consideration the needs of each participant and are mostly being implemented as a one-off thing. Assessment and analysis of items in the examination system, MARA PKP Program Overview & Upskilling BITARA teachers, Professional Learning Community (PLC) for science and Maths are a few courses designed by BSM to cater for 3528 teachers in all

MRSM. Only a handful would be shortlisted to attend such courses and the rest should just be satisfied with what is designed in their respective colleges. Thus far, 60% of the professional development programmes are implemented by MRSM and looking at the implementation of professional development conducted in each MRSM to satisfy the need of fulfilling the 7-day training requirement each year, courses implemented are not designed to meet the need of developing teacher leader qualities so as to increase their performance (Suhana Md Yusoff, 2013). The effectiveness of the professional development programmes itself has never been discussed.

The question to be contemplated is, what is the level of professional development being implemented in MRSM for teacher quality development? And if there is some kind of PD being enforced, does the professional development increase teacher leadership or teacher performance among the generation Y MRSM teachers? Such questions are of utmost important due to the fact that the Generation Y teachers are increasing in MRSM and they are the majority of teachers in MRSM of late.

Generation Y teachers who are said to grow up with technology and having a superb ability to multitask, in actual fact, are having problems with conflict resolution, life direction and repeated assessment and comments which result in these teachers having the intention to quit and ineffective work performance (Lourenco & Cronan, 2016; Robyn & Preez, 2013). Martin (2005) has forewarned several problems with generation Y workers in general such as they insist on freedom and flexibility to implement any task given because they are self-reliant and independence. They are techno-savvy and expect the administration to also be up-to-date in the technological

field. Thus, this study is looking into generation Y teachers in MRSM in terms of their leadership attitude and how it affects their performance.

Several demographic aspects of generation Y teachers are going to be looked into namely gender, qualification (refers to local graduate or oversea graduate) and CGPA (refers to their certification cumulative grade point average). Gender difference plays a significant role in teaching practice (Mac Nell, Driscoll & Hunt, 2015; Sliskovic & Maslic Sersic, 2011; Zulfaka Ishak, Nor Aishah Buang & Lilia Halim, 2014). Mac Nell, Driscoll and Hunt (2015) have found that students prefer male teachers better than female teachers and conclude that male teachers perform slightly better in terms of professionalism, expertise and effectiveness. Thus, this study is looking into gender difference in terms teacher leadership, professional development and teacher performance of generation Y MRSM teachers.

Some teachers graduated from universities abroad while most are certified from local universities. The recruitment of MRSM teachers are done regardless of their qualification be it from local universities or universities abroad (Bahagian Sumber Manusia MARA, 2019). Rahmah Ismail, Ishak Yussof and Lai Wei Sieng (2011) have gathered the perceptions of employers in the service sectors in Malaysia of their workers and found that employers perceive overseas graduates to perform better than local graduates. This study intends to examine this demographic aspect, whether there is a difference in the performance of generation Y MRSM teachers in terms of their qualification.

The final demographic aspect of generation Y teachers in MRSM is the CGPA. Cumulative Grade Point Average (CGPA) is an interesting aspect to be considered because graduates' CGPA reflects the metacognitive level of the graduates. The rate of employability is higher for graduates with higher CGPA in contrast to the lower ones (Enak Ali, Ridzwan Che' Rus, Mohd Adib Haron & Mohd Azlan Mohammad Hussain, 2018). In a research by Nooriah Yusof, Zakiah Jamaluddin and Norain Mat Lazim (2013), they conclude that graduates with higher CGPA have greater chances of being employed due to the fact that employers believe they would have better grasp of the knowledge required in the field related. In hiring employees specifically teachers, MARA Human Resource Department has given priority to hire teachers graduated with CGPA about 3.00 (Bahagian Sumber Manusia MARA, 2019). This research intends to see if there is a difference in the generation Y MRSM teachers in terms of their teacher leadership, teacher performance and professional development based on this demographic CGPA.

To conclude, this study attempts to look at the relationship between teacher leadership and teacher performance of generation Y MRSM teachers and what is the role of professional development in the relationship between these two in the realm of the demographic aspects of gender, qualification and CGPA. It is hoped that this study will foster a deep level of understanding about teacher leadership, teacher performance as well as professional development of MRSM teachers specifically generation Y MRSM teachers.

1.4 Purpose of Research

Although the volume of the present research is considered extensive in the domain of administrative leadership, very little research has been conducted on the topic of teachers as leaders specifically for MRSM teachers. The purpose of the study was to enlist knowledge and insight as well as add to existing research about teacher leaders.

Another component of the research covers teacher performance. This study intended to look into the performance of generation Y MRSM teachers. What is the level of their performance? The researcher wishes to discover to what extent teacher leadership affects the performance of these teachers.

Yet another area of interest is that of professional development, specifically in the ways generation Y MRSM teachers' involvement in professional development. How far they participate in the professional development programmes and how professional development programmes affect their performance?

The demographic aspects namely gender, qualification and CGPA of the generation Y teachers in MRSM are going to be looked into to determine whether or not there are differences in the level of teacher leadership quality, teacher performance and professional development.

Thus, to conclude, this research is carried out with the aim of analysing the relationship between teacher leadership and teacher performance and to explore the

role of professional development in this relationship among the generation Y MRSM teachers.

1.5 Research Objectives

Generally, this study is aimed to look at professional development as a mediator to the relationship between teacher leadership and teacher performance while the specific objectives of this study are as follow:

1. Measure the level of teacher leadership, professional development and teacher performance of generation Y teachers in MRSM.
2. Analyse the differences in the level of teacher leadership, professional development and teacher performance based on the demographic (gender, qualification and CGPA) of the generation Y teachers in MRSM.
3. Identify the effect of teacher leadership on teacher performance; teacher leadership on professional development; and professional development on teacher performance of generation Y teachers in MRSM.
4. Evaluate the domains of teacher leadership and professional development that influence teacher performance of the generation Y teachers in MRSM.
5. Determine the role of professional development as a plausible mediator in the relationship between teacher leadership and teacher performance.

1.6 Research Questions

The broad focus of this research is the relationship between teacher leadership and teacher performance with professional development being the mediating effect and it encompasses an analysis of teacher leadership, teacher performance and professional

development of the generation Y MRSM teachers. This research would naturally be exploratory and thus be guided by these research questions:

1. What is the level of teacher leadership, professional development and teacher performance of generation Y teachers in MRSM?
2. Is there any difference in teacher leadership, professional development and teacher performance based on the demographic (gender, qualification and CGPA) of the generation Y teachers in MRSM?
3. Is there any significant effect of teacher leadership on teacher performance; teacher leadership on professional development; and professional development on teacher performance of generation Y teachers in MRSM?
4. What are the domains of teacher leadership and professional development that influence teacher performance of the generation Y teachers in MRSM?
5. Does professional development play the role as mediator in the relationship between teacher leadership and teacher performance of the generation Y teachers in MRSM?

1.7 Research Hypotheses

Based on research objectives and questions, twenty-three null hypotheses were initially formed to be tested at significant level of 0.05. These research hypotheses are framed into four categories. First is to see the differences in the levels of variables with respect to the demographic information. Second is to identify the significant effect among teacher leadership, professional development and teacher performance. Third is to identify the domain(s) that influence the dependant variable the most and fourth is to determine the role of professional development as a

plausible mediator for the relationship between teacher leadership and teacher performance.

1.7.1 The Differences in Teacher Leadership, Professional Development and Teacher Performance with Relation to Demographic information of the Generation Y MRSM Teachers

This study aims to analyse the differences based on the demographic (gender, qualification and CGPA) of the generation Y teachers in MRSM. Thus, several hypotheses are composed in the form of null hypotheses as stated:

1.7.1.1 Teacher leadership

Ho1: There is no significant difference in the level of teacher leadership based on gender of generation Y teachers in MRSM.

Ho2: There is no significant difference in the level of teacher leadership based on qualification of generation Y teachers in MRSM.

Ho3: There is no significant difference in the level of teacher leadership based on CGPA of generation Y teachers in MRSM.

1.7.1.2 Professional Development

Ho4: There is no significant difference in the level of professional development based on gender of generation Y teachers in MRSM.

Ho5: There is no significant difference in the level of professional development based on qualification of generation Y teachers in MRSM.

Ho6: There is no significant difference in the level of professional development based on CGPA of generation Y teachers in MRSM.

1.7.1.3 Teacher Performance

Ho7: There is no significant difference in the level of teacher performance based on gender of generation Y teachers in MRSM.

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Ho8: There is no significant difference in the level of teacher performance based on qualification of generation Y teachers in MRSM.

Ho9: There is no significant difference in the level of teacher performance based on CGPA of generation Y teachers in MRSM.

1.7.2 Significant Effect among the Variables

Most of the literature review on teacher leadership (Catholic Education Commission of Victoria: Evaluation Case Study, 2014; Rahma Al-Mahrooqi, Denman, Jamila Al-Siyabi & Faisal Al-Maamari, 2015; Bastian, McCord, Marks & Carpenter, 2017) state that there is a relationship between teacher leadership and teacher performance as well as teacher leadership and professional development. The assumption of research is that the higher is the level of teacher leadership, the level of teacher performance will increase. Likewise, the higher is the level of teacher leadership the professional development will correlate in terms of increment of its level. Based on

these assumptions, several hypotheses were designed and expressed in the form of null hypotheses namely;

Ho10: There is no significant effect of teacher leadership on teacher performance among generation Y teachers in MRSM.

Ho11: There is no significant effect of teacher leadership on professional development among generation Y teachers in MRSM.

Ho12: There is no significant effect of professional development on teacher performance among generation Y teachers in MRSM

1.7.3 Influence of Domains of Teacher Leadership and Professional Development on Teacher Performance

This study intends to make a prediction of the domains of teacher leadership and professional development that influence teacher performance the most. Based on the assumption that the domains of teacher leadership and professional development do not have any significant influence on teacher performance, these hypotheses were fashioned in the form of null hypotheses in order to be tested:

1.7.3.1 Domains of Teacher Leadership on Teacher Performance

Ho13a: Teacher performance is not significantly influenced by the self-awareness domain of teacher leadership of generation Y teachers in MRSM

Ho13b: Teacher performance is not significantly influenced by the leading change domain of teacher leadership of generation Y teachers in MRSM

Ho13c: Teacher performance is not significantly influenced by the communication domain of teacher leadership of generation Y teachers in MRSM

Ho13d: Teacher performance is not significantly influenced by the diversity domain of teacher leadership of generation Y teachers in MRSM

Ho13e: Teacher performance is not significantly influenced by the instructional proficiency and leadership domain of teacher leadership of generation Y teachers in MRSM

Ho13f: Teacher performance is not significantly influenced by the continuous improvement domain of teacher leadership of generation Y teachers in MRSM

Ho13g: Teacher performance is not significantly influenced by the self-organization domain of teacher leadership of generation Y teachers in MRSM

1.7.3.2 Domains of Professional Development on Teacher Performance

Ho14a: Teacher performance is not significantly influenced by the induction domain of professional development of generation Y teachers in MRSM

Ho14b: Teacher performance is not significantly influenced by the mentoring domain of professional development of generation Y teachers in MRSM

Ho14c: Teacher performance is not significantly influenced by the continuous professional development domain of professional development of generation Y teachers in MRSM

1.7.4 Professional Development as Mediator

This study is determined to identify the role of professional development in the relationship between teacher leadership and professional development. Thus, this null hypothesis is formed to be tested:

Ho15: Professional development does not act as a mediator in the relationship between teacher leadership and teacher performance.

1.8 Theoretical Framework

Theories and models play a significant role as a tool that can predict, explain and be used as a guide and reference to a study which is conducted (John & Stephen, 1996). The Framework of this research is based on theories and concepts related to teacher leadership, teacher performance and professional development which had guided the development of the study.

1.8.1 Distributed Leadership Theory

Conventionally, leadership is affiliated with position, role, authority and power (Oracion, 2014) of a single gallant leader (Timperley, 2005). That is no longer the case at the turn of the century whereby Distributed Leadership Theory was

introduced by Peter Gronn (2000). Organization can perform with the absence of leaders because Gronn (2000) believes that leadership is being distributed among the agents in the organisation. Referring to educational institutions, the agents would definitely be the teachers and these teachers portray leadership competencies; firstly in their character; secondly through the procedures and operations happen in the organisation; and thirdly the features hereditary in the work processes itself (Gronn, 2000).

Gronn (2000) further explains that distributed leadership among teachers can be seen in each teacher in terms of authority, values, interests and personalities. Later in his article, *Distributed leadership as a unit of analysis*, Gronn (2002) further emphasizes that leadership, being distributed, is a process of influencing and it is agreed by York-Barr and Duke (2004) when they provide the definition of teacher leadership as a process whereby teachers (working alone or in a team) influence other teachers, administrators and other stakeholders to increase the performance of teaching and learning practices with the final outcome being improved student performance.

Meanwhile, Harris (2003) further studies the distributed leadership theory and agrees that there are some strong associations between teacher leadership and the distributed leadership theory. Timperley (2005) has proven the notion of leadership as distributed beyond diversified people and situations to be a better practical framework to understand the complexities of schools.

Based on several research findings that support the distributed leadership theory as the backbone to teacher leadership, this study has adapted the distributed leadership

theory to explain teacher leadership variable. To describe the application of the distributed leadership theory for teacher leadership, this research will utilize Katzenmeyer and Katzenmeyer (2009) teacher leadership model for self-assessment based on their seven domains of teacher leadership which are generated depending on distributed leadership theory.

1.8.2 Theory of Change

Theory of change stems from programme theory and program evaluation (Vogel, 2012). It does not only focus on any programme being executed effectively, but also explains effective programme would be a programme with evaluation methods used to appraise the effectiveness of the programme. Thus, 'theory of change' has come into perspective to describe the steps of actions that lead to the objectives or goals of the organization as well as the association between the actions and goals achieved (Weiss, 1995). In this research, professional development is based on the theory of change whereby the theory stresses on the on-going process of consideration to analyse change and how it happens (James, 2011).

Any activity done in an organization is always planned with the intention of producing a series of outcomes that would give impacts to the organization according to the theory of change. Professional development which includes series of programmes with the aim of changing the performance of teachers from ordinary to extraordinary is based on theory of change. In order for the theory of change to be applicable for professional development variable, the Talis OECD Teaching and Learning Model are used with three domains to explain professional development.

1.8.3 Theory of Performance

The Theory of Performance (ToP) is developed by Don Elger (2017) from the University of Idaho. According to the theory, to perform is to be committed to a series of actions which incorporate skills and knowledge to yield valuable outcome. According to ToP, six underlying concepts formed the foundation which can be used to explain performance and improvements in performance.

Teaching should come with some kind of guidance in order for the teaching process to be enhanced from time to time in the series of actions that the teacher gets involved in (Danielson, 1996). This guidance can be perceived as a how-to book for the amateurs in handling their early classroom adventures, a structure for the more seasoned teachers to become more competent and an instrumentation to assist the qualified educational administrators with development efforts. For others, the guidance is interpreted as effective monitoring and evaluation (Moss, 2015).

An evaluation system can be a powerful tool for teacher development if it is functioning effectively and thus may be able to determine the teacher performance. Based on the theory of performance which believes that an effective system to evaluate teachers will accomplish quality teaching and professional learning, Danielson has designed a framework for teaching comprises of four important domains namely planning and preparation, the classroom environment, Instruction and (2011). This framework is used to evaluate teacher performance ever since (Moss, 2015). This research will utilize Danielson' Framework for Teaching and the instrument to evaluate the teacher performance.

1.8.4 Role Theory

The theory that glue all these three theories is the Role Theory. George Herbert Mead are considered one of the founders of symbolic activism and the major leader in developing social role theory (Hindin, 2007). Role theory posits the following about social behaviour. First, the division of labour in society takes the form of the interaction among heterogeneous specialized positions that are called roles (Hindin, 2007). This is where teacher leaders take their role. In a society, teachers play the role as educators but they should be the best of educators by playing their role as teacher leaders. Second, the role theory posits that social roles include appropriate and permitted forms of behaviour, guided by social norms which are commonly known and hence determine ecpectations (Hindin, 2007). Distributed leadership theory plays its role in guiding the teachers on how to behave in schools as well as in society. This refers to their character, how they perform the teaching procedures and any administrative operations in schools and the features hereditary in the teaching work itself (Gronn, 2000).

Next, the role theory posits that changed conditions can render a social role outdated or illegitimate (Hindin, 2007). In order to stay relevant, teachers will have to embrace self-improvement because the world is changing and knowledge imparted through teaching is more so. Teachers will have to improve themselves in terms of their knowledge and skills in order to handle the changes that are happening. This is where professional development comes in. Theory of change, which stresses on the on-going process (professional development activities) that leads to the objectives or goals of the organization as well as the association between the process and goals achieved (Weiss, 1995), has been the base for professional development. Teachers

participating in professional development programmes with the goals of making sure their role as teachers are being carried out excellently are behaving appropriately in the commonly known social norms.

Finally, the role theory posits that the anticipation of rewards and punishments as well as the satisfaction of behaving in a prosocial way, accounts for why people conform to role requirements (Hindin, 2007). The role requirement for teacher leaders is teacher performance. Teacher performance can also be considered as the reward for conforming to the teacher leader behaviour. Theory of performance states to perform is to be committed to a series of actions which incorporate skills and knowledge to produce valuable outcome (Elger, 2017). The series of actions come from the domains of teacher leadership and professional development. Conforming to these domains in their behaviour will make teachers receive the reward of teacher performance.

It is believed that the integration of these theories would enable researcher to accurately explain the variables of the study, namely, teacher leadership, professional development and teacher performance (Figure 1.1).

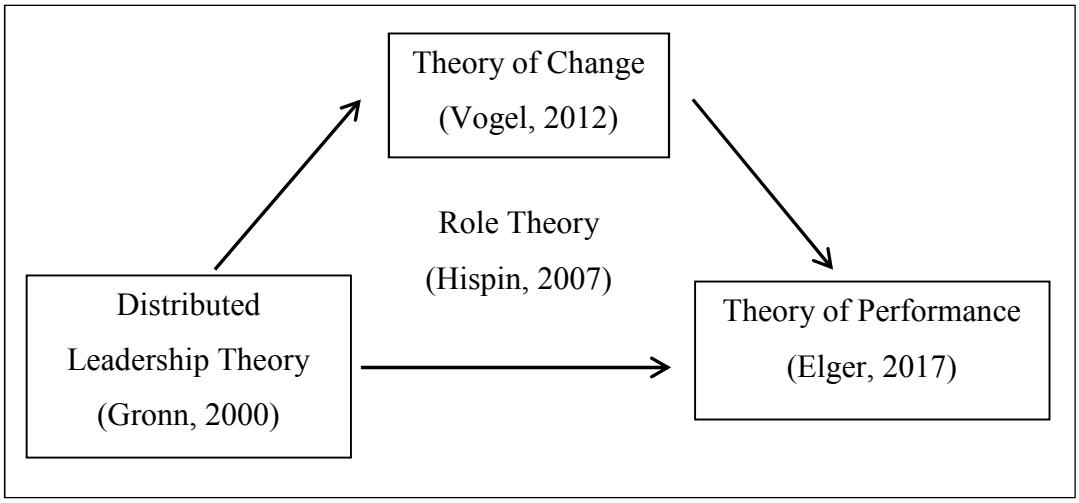


Figure 1.1. Research Theoretical Framework

1.9 Conceptual Framework

Based on the distributed leadership theory, theory of change, theory of performance and role theory, the conceptual framework for this study is formed in Figure 1.2.

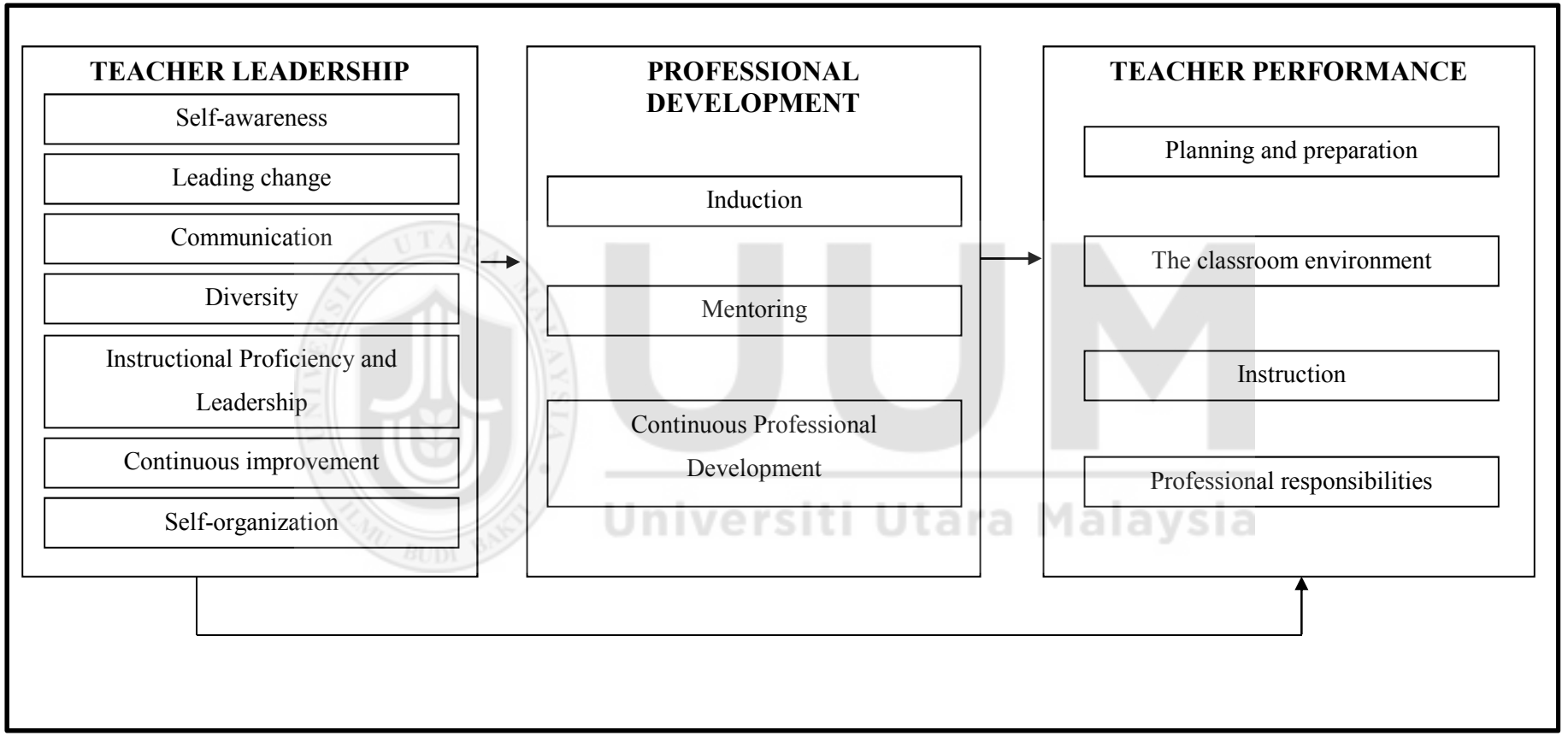


Figure 1.2. The framework for the role of professional development in enhancing the relationship between teacher leadership and teacher performance among generation Y teachers in MRSM (Based on Katzenmeyer & Katzenmeyer, 2009; Talis OECD Teaching and Learning International Survey, 2013; Danielson, 2013)

This conceptual framework is limited to the teacher leadership domains of self-awareness, leading change, communication, diversity, instructional proficiency and leadership, continuous development and self-organization. These domains are said to give an impact to professional development of teachers in terms of induction, mentoring and continuous professional development (Davignon, 2016). Professional development performed in the limitations set in the framework would have a significant effect on teacher performance in terms of planning and preparation, classroom environment, instruction and professional responsibilities (Firestone, 2014). If teachers have leadership values in them, this framework predicts that it would have a connection to teacher performance (Bastian, McCord & Carpenter, 2017). This model will be tested only based on the demographic limitations of gender, qualification and CGPA.

1.10 Significance of Research

Students' excellent performance is the product of excellent teachers. Of late, the MRSM student performance in the Sijil Pelajaran Malaysia (SPM) examination has been showing the downfall trend for the past 7 years since 2010. This is reflective of the teacher performance. A lot of initiatives had been executed by the MARA Secondary Education Division in order to increase teacher performance such as the MARA English Competency Programme for English teachers, MARA Upskilling programme, Content Mastery Evaluation for Mathematics teachers and teacher observation (Bahagian Pendidikan Menengah MARA, 2019). Yet, there has been limited research done to evaluate the impact of such professional development programmes on MRSM teacher performance specifically the generation Y teachers who have been the majority of the teaching staff. Thus, this research is significant in

identifying the level of teacher performance so as to identify whether the generation Y teachers in MRSM are not performing or otherwise. It is hoped that the findings related to teacher performance of generation Y of this research will be an eye opener for a more fixated, constructive efforts of improvement.

This research is also done with the purpose of identifying the level of teacher leadership that the generation Y teachers in MRSM practise. With the inrush of the generation Y teachers, they are the dominant figure in transferring knowledge to the students. If the students are not performing, then the teacher performance will be one of the contributing factors. Teacher performance will have to be taken seriously. The findings of this research may or may not support the hypotheses posed related to teacher leadership and teacher performance. What has been the contributing factor to this teacher performance? This research is interested to look into the domains of teacher leadership among the MRSM teachers specifically the generation Y teachers and their important role in influencing the teacher performance. If teacher leadership domains prove to be significant influence on the teacher performance, then this research is important in suggesting that the teachers should increase the level of teacher leadership in order to improve their performance.

MARA has implemented several professional development programmes throughout the years for the teachers and thus far, the students are still not performing. If this research proves that professional development plays the role as the mediator for the relationship between teacher leadership and teacher performance, then MARA can benefit from this research in terms of improving the training aspect for these teachers. MARA could specifically design more compelling professional

development programmes which are based on proven research to meet the needs of teacher development.

In addition, this research is designed to increase the number of theoretical and conceptual framework in discussing teacher leadership, professional development and teacher performance. Its discussion highlights the importance of teacher leadership to be in existence in all teachers, which contributes as a significant factor in teacher performance. The research also includes professional development which is predicted to play a strong role in the relationship between teacher leadership and teacher performance.

This research is important in terms of practice whereby the findings may serve as a manual for practitioners in drafting new policies or designing organizational improvement programmes. It is also hoped that the policy makers from the Secondary Education Division of Majlis Amanah Rakyat (MARA) and the Ministry of Education Malaysia will take the findings of this research into consideration upon designing evaluation for teacher performance as well as programmes for professional development and teacher leadership development.

Looking at this research from the perspective of knowledge development, the findings of this research could be a contribution to the realm of knowledge. Researchers embarking on issues related to teacher leadership, professional development as well as teacher performance could utilize the discovery of this research as new input in this field.

1.11 Limitations of research

This research has a few limitations that undoubtedly would influence its findings and interpretation. The first limitation is this research involves all MRSM in Malaysia. MRSM offer different programmes such as Hafazan (Ulul Albab) Programme, International General Certificate of Secondary Education Programme (IGCSE), Middle Years Programme (MYP), Program Khas Pendidikan (PKP) and others. Bearing different programmes, the teachers recruited in these MRSMs may have different perceptions and suppositions towards teacher leadership, teacher performance and professional development. No secondary schools from the Ministry of Education Malaysia is involved and thus limiting the research for overall secondary schools in Malaysia.

The second is this research is based on the aspect of teacher leadership and teacher performance of the generation Y teachers and not on other teachers. Thus, generalization of the relationship of teacher leadership and teacher performance should not be made for all MRSM teachers per say due to the fact that the characteristics of other generations of teachers differ from generation Y teachers and the level of teacher leadership and teacher performance for generation Y MRSM teachers may be different based on individuals, schools and programmes for that matter.

Third is the data obtained in this research is based on the questionnaires from the Katzenmeyer and Moller (2009) for teacher leadership, Talis OECD Teaching and Learning International Survey (2013) for professional development and Danielson (2013) for teacher performance. Adaptation and translation of the instrument were

done using back-translation method by certified translators, and further analysed by experts in Bahasa Melayu and English Language. Reliability and validity analysis have been performed. Thus, the findings of this research may differ from other studies using different instruments to discuss teacher leadership, professional development and teacher performance.

In the case of using the instruments mentioned above, this research looks into the limited domains related to the instruments namely teacher leadership with 7 domains (self-awareness, leading change, communication, diversity, instructional proficiency and leadership, continuous improvement and self-organization), professional development with three domains (induction, mentoring and continuous professional development) and teacher performance with 4 domains (planning and preparation, the classroom environment, instruction and professional responsibilities). Hence, this research focuses on the effort to understand the relationship among the variables limited only to the operational definition of the domains being analysed.

Finally, the findings of this research are very much dependent on the sincerity and honesty of respondents when answering the questionnaires provided. In this manner, the researcher assumes that all responses obtained from the respondents are accurate. Validity and reliability of this research would also rely upon this assumption.

1.12 Operational Definition

This research involves three variables namely teacher leadership, teacher performance and professional development. Operational definitions will set the boundaries of this study. Several important operational definitions are as follow:

1.12.1 Teacher leadership

Teacher leadership is a series of actions by which teachers, be it working individually or working together, affect their companions, principals and everybody else to develop their teaching and learning conventions with the main purpose of enhancing student learning and performance (York-Barr & Duke, 2004). This variable will be discussed based on the domains designed by Katzenmeyer and Moller (2009) involving self-awareness, leading change, communication, diversity, instructional proficiency and leadership, continuous improvement and self-organization.

1.12.2 Teacher leaders

Sugg (2013) lists down the roles of teacher leaders being master teacher, curriculum specialist, mentor, teacher educator, student advocate and researcher but for the purpose of this research, the operational definition of teacher leaders is educators who "lead within and beyond the classroom; identify with and contribute to a community of teacher learners and leaders; influence others toward improved educational practice; and accept responsibility for achieving the outcomes of their leadership" (p.6) (Katzenmeyer & Moller, 2009).

1.12.3 Teacher performance

Teacher performance refers to the effectiveness of the teacher's work because the result contributes the strongest interconnection to the goals of the school and the satisfaction of the stakeholders (Bernadin, Kane, Ross, Spina & Johnson, 1995). The limitations set for this study is that teacher performance will deal with four domains

namely planning and preparation, classroom environment, instruction and professional responsibilities set by Danielson (2013).

1.12.4 Professional development

Professional development is defined as formal and informal learning experiences and processes that lead to intensified understanding and advancement of practice (Broad & Evans, 2006). Talis OECD Teaching and Learning International Survey (2013) has been adapted as the guideline to evaluate professional development in this study and the limitations set are based on induction, mentoring and continuous professional development. All MRSM teachers have undergone induction progammes initially after recruitment before they start teaching. During the first few years of their career, they would be assigned mentors in order to help them adapt and throughout the years, they will attend courses and seminars as part of their professional development programmes (Bahagian Pendidikan Menengah MARA, 2019).

1.12.5 Generation Y MRSM teachers

Teachers, teaching in MRSM, who are born after 1977 and started their teaching career on 1 July 2000 are considered as generation Y or also known as millennials (House Coopers, 2009). For the purpose of this study, generation Y is a term used to refer to a group of people born in the year of 1977 until 1995 (Behrstock & Clifford, 2009). They are said to be defined by several noticeable characteristics such as they desire freedom in making choices as well as in voicing out their opinions. They appreciate openness, transparency and integrity. Generation Y people tend to choose collaboration and value relationship between one another. They can be considered as interactive and wish for something just right (Behrstock & Clifford, 2009).

1.12.6 Maktab Rendah Sains MARA (MRSM)

Maktab Rendah Sains MARA (MRSM) is an educational institution under the administration of Secondary Education Division MARA (BPM) and Majlis Amanah Rakyat (MARA) which is under the jurisdiction of the Ministry of Rural Development. There are 54 MRSM in Malaysia and 51 of them are having students from form 1 until form 5 while 3 MRSM are only having form 4 and form 5 students. The establishment of MRSM is based on the goal of developing and promoting *bumiputera* society in science and technology where students are exposed to high quality education system, good curriculum and experienced and dedicated educators (Majlis Amanah Rakyat MARA, 2003). The selected students entering MRSM during Form 1 are those who excel in the Primary School Assessment Test (UPSR). Excellent students in PBS PT3 also have the opportunity to enter MRSM when in form 4. The conducive learning environment coupled with good infrastructure have led MRSM to always be the choice of students. Learning in MRSM is a bit different from the day school of Ministry of Education. Although the syllabus is the same, MRSM learning system applies the semester system whereby student performance is assessed using Cummulative Grade Point Average system (CGPA) based on student achievement in standardized tests, quizzes, assignments and final examination. The teaching and learning sessions involve lectures, exercises as well as practical classes.

1.12.7 MRSM teachers

MRSM teachers are those appointed by Human Resource Division, *Majlis Amanah Rakyat MARA* under the *Pegawai Perkhidmatan Pendidikan Siswazah* (PPPS) Scheme, starting their career at the Grade DG41. MRSM teachers are teaching in MRSM exclusively and do not include teachers teaching in any school under the

Ministry of Education Malaysia. MRSM teachers also do not include those who are teaching at other MARA education institutions such as Institut Kemahiran MARA (IKM), Giat MARA, Kolej Profesional MARA (KPM), Kolehj Kemahiran Tinggi MARA (KKTM) and others.

1.13 Summary

The first chapter has discussed an introduction to teacher leadership, teacher performance and professional development. The discussion also covers the background of study, the problem statement, research objectives, research questions, research hypotheses and the importance of research. In addition, scope and limitations of research and operational definitions are also included.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter will focus on the literature which are relevant to the purpose of this study and the topic will be reviewed in detail. Discussions are pertaining to publications related to teacher leadership, teacher performance and professional development. The general issue about this research is to see the relationship between teacher leadership and teacher performance and the role of professional development in the relationship between these two variables.

2.2 Leadership

The significance placed on the notion of "leadership" has matured extraordinarily in essentially all sectors especially in education (European Commission, 2013). Gordon (1955) explains leadership as an interaction between a person and a group of people in which each individual in the group plays his roles in order to achieve the objectives set forth. Hemphill and Coons (1957) describe leadership as the behaviour of an individual who leads the activities of a human group towards achieving the goals to be accomplished together. The gist of leadership is influencing other people's activities (Nigro, 1968). Nelson, Reed and Walling (1976) define leadership as a way of influencing one's behaviour so that followers can implement strategies according to the wishes of the leader. Rauch and Behling (1984) characterize leadership as a process that affects the activities of a group of people towards the formation and achievement of certain objectives. In the same line, Bass (1985) describes leadership as a transformation process of followers, realizing the vision and

goals to be achieved and explaining to followers how to achieve those goals. Donley, Everhart, Freeman, Koontz, Wagner and Wilson (1989) declare that leadership is an influence, art or a process that affects people so they will try to achieve the goal of the group willingly and with more rigor. Locke and Latham (2004) specify leadership as a process of persuading subordinates to perform the same actions in order to attain the same objectives. Likewise, Robbins (2005) denotes leadership as one's ability to influence a group of people towards achieving goals. Finally, according to Tannenbaum, Weschler and Massarik (2013), leadership is the personal influence used in situations, and is directed through the communication process, towards achieving one or more specific goals.

Based on the definitions of leadership discussed, some similarities exist in the definition and some general assumptions can be made about leadership. First is that leadership is a process of influencing and interacting between the leader and followers with the same aims, objectives and goals to be achieved. In order for the process to be effective, the leader must portray efforts in ensuring the followers together achieve defined vision and mission. In addition, there is the presence of individual task that needs to be implemented by the leaders as well as followers.

Thus the presence of leadership element in an organization specifically in educational organization is a must in order to ensure the vision and mission of the school is being carried out at all levels. The principal will influence the teachers, teachers who lead the other teachers or the students in their classrooms will also take on the task of influencing others to make it a concerted effort in achieving the goals and objectives of the school.

2.2.1 Theories on Leadership

Generally, there are several categories of leadership theories. Starting from the trait theory, leadership has developed with the behavioural theory and later on situational theory.

2.2.1.1 Trait Theory of Leadership

Trait theory or also known as Great Man Theory is formulated by Thomas Carlyle which states that the qualities of superior and charismatic leadership are inherited from birth and not learned (Kirkpatrick & Locke, 1991). It is believed that a leader has the mental, physical, emotional, intellectual, superior skills and charismatic personality. Those with the most special and superior nature are believed to be the most feasible to lead a group. Leaders are portrayed as incredible and leaders will use the extraordinary nature they possess to persuade others (Stodgill, 1974).

However, in a research by Pierce and Newstrom (2006), they claim that most researchers are of the opinion that personality traits such as appearance and physical form depend on ancestry but other attributes such as ability, skill and knowledge depend on experience and learning. Yukl (2013) identifies that earlier researches on trait studies are unsuccessful to discover any traits that would guarantee leadership success. This is due to the fact that these researchers have overlooked the effect of mediating variables in the causal chain developed by Yukl (2013) to explain how ineffective traits could be in producing results such as leader advancement without situational variable as mediating effect. Over the years, researchers have come out with findings that leader traits are very much related to leadership behaviour and effectiveness.

2.2.1.2 Behavioral Theory of Leadership

The behavioral approach to leadership began in the early 1950s when the trait approach has failed to identify the effectiveness of a leader. This approach, also known as behavioural theory of leadership, evaluates the behaviour of leaders based on how they make decisions, how they carry out tasks and how they give orders. It refers to what leaders actually do on the job (Yukl, 2013). This theory looks deeply into the skills and behaviour of leaders specifically their communicational skills when solving problems.

Research on behaviour of leaders are carried out based on two aspects namely leadership style and leadership function (Hoy & Miskel, 2001). There are two types of leadership style. The task-oriented leadership style gives priority to task related issues and focuses more on the work that should be implemented by the workers while the staff-oriented leadership style places an importance on the welfare of the staff and thus motivates and encourages them to do better and at the same time strengthen the leader-staff relationship. Pierce and Newstrom (2006) conclude that leaders will be more successful when they practise these two types of leadership style.

2.2.1.3 Contingency or Situational Approach of Leadership

After many research have focused on behavioural theory of leadership, situational leadership theory has emerged. This theory states that leaders behave according to the condition of the situation that they are faced with and there is no one specific leadership style for all situations (Hersey & Blanchard, 1988). Fiedler (1967)

assumes that every achievement of an organization or a group is a result of the combination of the trait of the leader himself and the various situations he faces.

Different attributes (traits, skills, behaviour) will be effective in different situations and that very same attribute may not be optimal in all situations (Yukl, 2013). This is why the situational approach is also described as the contingency theory of leadership.

Thus, the causal relationship among the primary types of leadership theories is as in figure 2.1.

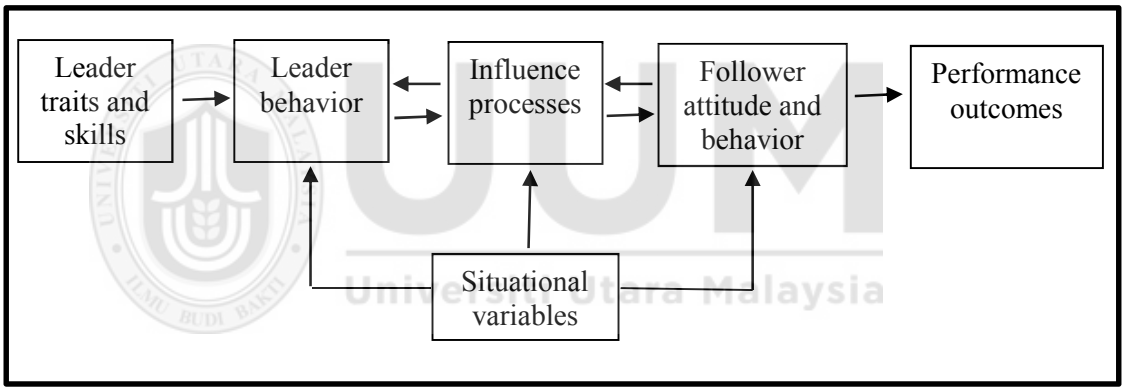


Figure 2.1. Causal relationship among the primary types of leadership variables

Based on figure 2.1, Yukl (2013) describes leadership effectiveness to include the characteristics of leaders which are listed out as traits, values, skills, expertise, behaviour, beliefs and assumptions. Next is the characteristics of followers (attitude, behaviour, task commitment and effort, cooperation and mutual trust). Finally is the characteristics of the situation which refer to the type and size of the organization, task structure and complexity, organizational structure and organizational culture to name a few.

2.3 Definition and Concept of Teacher Leadership

Previously, leadership focused on the traits of leaders such as in the principals whereby urgency is placed on the principals' ability, competency, accomplishment, responsibility, presence and status (Yukl, 2013) and the aspect of setting and climate that have the relevancy to the leader behaviours and performance (Tafvelin, 2013). Leaders who follow the leadership framework (who model the way, inspire a shared vision, challenge the processes of leading, enable others to act and encourage the heart) are said to be able to influence others to achieve the organizational goals (Kouzes & Posner, 2015).

From the concept of influencing others, the term teacher leadership emerges. This term does not refer to a new style of leadership putting it in the same realm as instructional leadership or democratic leadership. Adding the term teacher to leadership is simply giving context to the role of teachers (Kelly, 2011). It is not a new term since in educational world teachers are the core component who makes school reformation happen in their classrooms and beyond through the process of influencing when they play the role as educators, facilitators, consultants, managers, researchers, counsellors, models, agents of change and actors (Abdull Shukor Shaari, 2008). Wills (2015) identified three aspects when defining teacher leadership namely excellence in teaching, collaboration with colleagues and participation in decision-making. For the purpose of this study, teacher leadership is defined as the series of actions by which teachers, be it individually or working together, affect their companions, principals and everybody else to develop their teaching and learning conventions with the main purpose of enhancing student learning and performance

(York-Barr & Duke, 2004). Based on the definition of teacher leadership above, teacher leaders are teachers who are leaders leading not only in their classrooms but also beyond, working with the community of teachers by sharing ideas for teacher advancement and development and they influence others for the school improvement (Kelly, 2011; Katzenmeyer and Moller, 2009).

Teacher leadership, being the case where teachers influence other teachers and other parties related to school to enhance the quality of the teaching and learning process with the end output of improved student learning and student performance, gives birth to the concept of teacher leadership being different from other roles of school leaders (Teacher Leader Model Standards, 2013). Formal role of school leaders may be played by the principals or district-level administrators but teachers are conceived as leaders (informally) when they gain the respect of others, they are forever learning, they are approachable and work as a team. Teachers assuming the role of leaders will conceptually collaborate with administrators in order to improve school performance. They will be the strongest advocates of school plans and the culture for excellence. Nonetheless, there is a need for a paradigm shift in the school culture if teachers want to uphold the concept of teacher leaders. Individualistic is a deterrent to the formation of the teacher leadership culture in schools and so, conceptually, teacher leaders will work together to achieve the aim of the school. Finally, according to the Teacher Leader Model Standards (2013), teacher leadership calls for reorganizing the school structures and roles in which the teachers are urged to meet the objectives of the schools.

2.3.1 Distributed Leadership Theory

Leadership is about relationship (Borland, 2015). In a relationship between a leader and followers, the aforementioned functions as an inspirational figure that inspires others to produce greater efforts (Henman, 2017). It is an influencing process whereby the so called leaders would be exerting power in order to control the situation so as to result in the desired goals or objectives of an organization. Theories of leadership emerge and experience evolution starting from Theory X and Theory Y (Mulder, 2015) which encompass the style, behaviour and situation of leaders to contingency theories which denote the task-oriented leaders or relationship-oriented leaders (Henman, 2017).

This means that leadership in earlier periods centred on individual leaders' operations and interactions between themselves. Referring to studies on effective leadership in schools, one of the most persistent finding is that authority does not need to be shouldered by one person but can be dispersed within the school in between and among its community (Leithwood, Jantzi, Ryan & Steinbach, 1997; Harris, 2003). One theory about how leadership process expands over to other members of an organization is the distributed leadership theory (Timperley, 2005).

2.3.1.1 Distributed Leadership is a Form of Collective Leadership

Distributed leadership Theory states that distributed leadership is a form of collective leadership where leadership is being apportioned among the people in the organization and its existence is evident in the personal attributes of the members, in the organizational processes that occur and in the characteristics of the routines or programmes (Gronn, 2000). The organization such as schools can still perform with

the absence of leaders since leadership has been distributed to many in the form of carrying out the roles of leaders. Gronn (2000) continues to believe in the idea of distributed leadership because leadership is an instance of influence and organizational influence is more likely to be reciprocal.

In addition, Spillane, Halverson and Diamond (2004) agree with Gronn (2000) on distributed leadership because they summarize that school-leadership practice is not about what the school leaders think and how the school leaders act but more of leadership activities which encompass the interaction of leaders, followers and the situation in which leadership activity occurs. Thus, the 'new' leadership theory has identified the shared leadership or also known as distributed leadership whereby the essential functions of leadership are distributed among the members of the organization (in this case, the school) whom one of them happens to be the teachers. It is a form of empowerment given to teachers because most decisions are made by the ones who work most closely with students (Terry, 2017).

2.3.1.2 Distributed Leadership is Focusing on Instructional Improvement and Student Achievement

There are several basic principles of distributed leadership identified by Richard F. Elmore (2000) which confirms that distributed leadership is the new model of leadership happening among teachers in schools. Firstly, distributed leadership improves practice and performance whence teachers improve their skills and knowledge to create classrooms and schools with high performance. Secondly, distributed leadership creates an environment which views the learning process as a collective process. Everyone collectively acts as leaders to determine school improvement (Elmore, 2000). Thirdly, when leadership is distributed among others

in the organization, they will lead by exemplifying the values and behaviour they want others to follow (Elmore, 2000). The fourth principle of distributed leadership identified by Elmore (2000) is people who are in the environment where leadership is distributed recognize peers' competency and cooperate with one another in achieving the organizational goals. Finally, distributed leadership makes the people who acts as leaders (informally) are responsible for assisting to make possible what they would want others to do (Elmore, 2000). These principles have been in line with the standards of teacher leaders in ensuring improved school performance (European Commission, 2013).

2.3.1.3 Distributed Leadership is Recognizing other People's Expertise

Distributed leadership is an appearing attribute of a group or network of individuals whereby the members acknowledge the experts among them (Terry, 2017). Principals should recognize and trust teachers' professional competency and leadership abilities. Such actions will bring about collegiality among teachers. Collegiality is an environment conducive for school improvement (Kementerian Pendidikan Malaysia, 2011). Suffice to say that by distributing responsibilities of leadership among teachers, it is believed that every member of the school teaching community will have the capability to work as leaders (Berry, Daughtrey & Wieder, 2010). Teachers are said to blossom when they feel respected and acknowledged for their knowledge and experience (Lattimer, 2007).

The convergence of the distributed leadership properties has established the benefits of distributed leadership which contribute to improved student performance by first increasing teacher performance (Harris & Muijs, 2003). Teacher

leadership substantially refers to the exercise of leadership by teachers, despite of position or designation. In other words, teacher leadership is centrally concerned with forms of empowerment which are also at the core of distributed leadership theory. The existence of teacher leadership may be formal or informal in nature (Leithwood et. al., 1997). Some teachers deliver the formal leadership functions when they hold positions such as heads of department, mentors or union representative (York-Barr & Duke, 2004). Contrastingly, when teachers collaborate with others, teachers demonstrate expertise and share knowledge, teachers participate in school decisions, teachers reflect on work to make sure students learn something effectively (The Center for Comprehensive School Reform and Improvement, 2005), these teachers are exercising informal teacher leadership.

2.4 Research on Teacher Leadership

Teachers around the world are still absorbing the idea of teacher leadership whence numerous studies have been conducted related to teacher leadership (Villiers & Pretorius, 2012; Cheng & Szeto, 2016; Davignon, 2016; Oracion, 2014). Villiers and Pretorius (2012) had looked into the importance of teacher leadership when they addressed the issue of school culture that promoted teacher leadership among teachers. The purpose of their study was to identify the barriers to teacher leadership and the perceptions of teachers regarding a healthy culture for teacher leadership. Samples of this study were 283 educators from Eden and Central Karoo Education District of the Western Cape Province in South Africa. These educators were the principals, members of school management team, veteran, middle, novice and district officials in that particular district. They covered 61 schools ranging from primary to secondary and special schools in this district, male and female alike.

The findings of this study concluded that the school cultures were supportive of teacher leadership to be an integral part of schools, for it to be nurtured and sustained. Nonetheless there were barriers to the development of teacher leadership such as lack of time for collaboration, inadequate leading and learning activities and unavailable incentives or experiential training in the area of teacher leadership. Principal support for teacher leadership had never been an issue among these educators. Principals promoted the culture of teacher leadership except for the domains of teacher participation (teachers are less involved in making decisions), open communication (teachers feel less informed about what is happening in schools) and collegiality (less collaboration on instructional and matters concerning students). Villiers and Pretorius (2012) concluded their study with a stress on the importance of teacher leadership by overcoming the barriers to teacher leadership and improving on the three domains of teacher leadership culture which still needed improvement. When barriers were overcome and cultures were supportive of teacher leadership, teachers would be empowered, and this would produce high teacher performance (Villiers & Pretorius, 2012). Thus it is important that teachers practise teacher leadership to improve themselves as teachers.

Teacher leadership was also being stressed by Nor Asma Sheirnawani Abdul Rahman, Mohd Asri Mohd Noor, Rohaila Yusof and Hamidah Yusof (2015) in their study on The Validity of the Model of Teacher Leadership Practice. The main idea of this study was to produce a valid model to test teacher leadership practice among teachers. Seven domains of teacher leadership practice were singled out. The first domain was facilitating improvements in instruction and student learning. The

second domain was leadership attributes and skills. The third domain was developing the organization through management and administration followed by the next domain which was fostering a collaborative culture to support educator development and student learning. The fifth domain was practising professional learning for continuous improvement. The sixth domain was enhancing collaboration with various stakeholder and the last domain was making exemplary contribution towards becoming referral leader.

Out of the seven domains identified, they wanted to determine which domains were dominant to be used as a measurement tool for teacher leadership practice. The samples for this study were 150 teachers from several primary and secondary schools in the states of Perak and Selangor selected by means of simple random sampling. Exploratory Factor Analysis and Confirmatory Factor Analysis had been applied and the finding revealed four domains to be more dominant for the measurement of teacher leadership practice. These domains are i) facilitating improvements in instruction and student learning, ii) developing the organization through management and administration, iii) enhancing collaboration with various stakeholders and vi) making exemplary contribution towards becoming referral leader (Nor Asma Sheirnawani Abdul Rahman, et al., 2015). The other three domains were dropped based on the EFA and CFA performed. The domains identified are of relevance to the domains of teacher leadership by Katzenmeyer and Moller (2009).

The domain facilitating improvements in instruction and student learning correlates with the domain of instructional proficiency and leadership of teacher leadership identified by Katzenmeyer and Moller (2009) which focuses on teachers improving

their teaching and learning skills. The domain developing the organization through management and administration also gives meaning to the domain of instructional proficiency and leadership where teachers are involved in decision-making and are responsible for most of the resolution made in classrooms.

Enhancing collaboration with various stakeholders would connect with diversity, communication and leading change of Katzenmeyer and Moller (2009) except that stakeholders mentioned by Nor Asma Sheirwani Abdul Rahman et al. (2015) refers to the student family and the outside community. Creating a positive environment would include a positive relationship with students, other teachers, parents and community at large by practising open communication. Finally, the domain of making exemplary contribution towards becoming referral leaders would be in line with self-awareness and leading change of katzenmeyer and Moller (2009) domains whence recognition of the teacher's achievement and excellent performance would be exemplary to other teachers (Nor Asma Sheirwani Abdul Rahman, et al., 2015).

Furthermore, in Hong Kong, Cheng and Szeto (2016) had executed a study on Teacher Leadership Development and Principal Facilitation: Novice Teachers' Perspectives. In identifying the need for empowering teachers and enhancing their professionalism through teacher leadership, Cheng and Szeto (2016) realized that the concept of collaborative, parallel and distributed leadership roles shaped the perception of teacher leadership. They felt that principals directly established the circumstances of collaboration culture, conditions of relationships among teachers and finally the acknowledgement of teachers' leadership roles. These were considered conducive to the growth and advancement of teacher leadership. The

problem that they had identified is the limited focus given to the teacher leadership among the novice teachers whether the development of teacher leadership in them was initiated by the principals' consignment and reinforcement or the novice teachers' self-initiation due to their awareness and willingness to lead.

Cheng and Szeto (2016) scrutinized novice teachers' perspectives of their own teacher leadership development and how their school principal facilitation influenced such development. Conducted qualitatively, this study had invited twenty novice teachers, aged from twenty-four to thirty (twelve female and eight male teachers) from Hong Kong schools to be the respondents. Two rounds of interview were performed; once when they first graduated and the second round was when they had been working for two years.

Out of the twenty respondents, six were identified to have taken up the role of teacher leaders in various ways (fourteen others were not involved in any teacher leadership role in their two-year term of teaching). The findings of the study stated that the teachers' perceptions of their teacher leadership roles could be developed through both formally assigned roles (by the principal) and self-initiated informal roles. This means that the novice teachers could perform the principal-delegated and teacher-initiated leadership roles as teacher leaders at the same time. How did this happen? The study showed that it was highly likely for an immensely self-motivated novice teacher to expand his/her leadership as long as the principal favoured space for individual teacher's innovations (Cheng & Szeto, 2016). This study suggested that teacher leadership development would progress significantly by combining the

impact of teachers' willingness to lead as well as the principal's facilitation of such development among the novice teachers.

For the purpose of this study, Cheng and Szeto (2016) had proven that teacher leadership is important to the Y generation and it can be conceived and developed in the interaction between teacher awareness, willingness and self-initiation; and principal's delegation, facilitation and identification of the potential leadership talents among the novice teachers. This means that the conducive environment formed by the principal and the teacher awareness of the importance of teacher leadership are important aspects of teacher leadership development in any school.

Moreover, a study on teacher leadership involving secondary schools in the east zone of Peninsular Malaysia was carried out by Azhar Harun, Ramli Basir, Zaidatol Akmaliah Lope Pehei and Soaib Asimiran (2016). They were interested to look into the level of teacher leadership among teachers in the secondary schools. Their focus groups were the high performing schools (HPS) and Non-High Performing Schools (NHPS) in the east zone of Peninsular Malaysia. According to them, teacher leaders were teachers who manage to influence student behaviour and other teachers in the school. They were always supporting and encouraging others, using knowledge and skills to solve problems in classrooms and forever having the drive to learn something new. This research intended to identify whether the teachers of the HPS and NHPS carried themselves as teacher leaders and if they did, was there any difference in the level of teacher leadership between teachers of HPS and NHPS.

The findings from this cross-sectional design study involving 200 teachers from HPSs and 200 teachers from NHPSs in the states of Pahang, Kelantan and Terengganu showed that the level of teacher leadership was high for the domain of developmental focus, recognition, autonomy, collegiality, participation, open communication and positive environment. As for the mean difference of teacher leadership based of the school categories, there was no significant difference in the mean score of domains for teachers of HPSs and NHPSs. This proved that categories of schools where the teachers worked did not influence the level of teacher leadership portrayed by them. Azhar Harun et. al. (2016) suggested the Ministry of Education to implement courses related to initiating and improving teacher leadership competency among the teachers throughout Malaysia as early as the preparation years of becoming teachers based on the finding of this study. To conclude, this study had proven the important role of teacher leadership to be emulated by each teacher in schools.

To stress further on the importance of teacher leadership and how it helps to develop teachers, a study in the Republic of Cameroon had proven that teachers with less criteria of teacher leadership were not showing interest in leading change and effective classroom performance (Fon, 2016). One of the challenges faced by teachers when they wanted to act as teacher leaders was the principal's refusal to involve teachers in the decision making which means no empowerment and no shared leadership (Fon, 2016). Teacher involved in decision making (which means that the teacher's principal practises shared leadership) was one of the criteria of teacher leaders (Coggins & McGovern, 2014). A study of teachers' perceptions of their involvement in decision making within secondary schools in Cameroon had

been undertaken by Dr Titanji Peter Fon (2016). Cameroon was experiencing revolution in educational field with several initiatives being implemented such as Education for All Initiative and the government's policy of free primary education. All these initiatives were executed with the aim of improving the secondary school performance in Cameroon. It was said that there were positive individual and organizational consequences of distributed leadership, in the form of shared decision making, to the organizations in general and educational organizations in particular (Fon, 2016). However, Fon (2016) addressed the questions: Did principals involve teachers in decision making? Did they encourage teacher collaboration? Data were collected from 300 teachers representing the population of 1825 teachers of secondary grammar schools in Cameroon and analysed for the answers to the questions mentioned before.

The findings revealed that 68.42% of the items of the questionnaire had means below than the cut-off point of 3.0 and this meant that principals were not very effective in getting others to get involved in decisions that affect the classrooms as well as the schools. Based on the findings, Fon (2016) had stressed that shared decision making was a significant aspect of education that had been overlooked by the education department of Cameroon. For the purpose of this study, though Fon (2016) had focused on shared decision making among the teachers by the principal, the focus was equivalent to the domain of leading change of teacher leadership developed by Katzenmeyer and Moller (2009). When the teachers refused to develop teacher leadership in themselves due to the lack of encouragement from the management, education has become deteriorated which needed revolution to be improved. The level of teacher leadership among the generation Y MRSM teachers needs to be

looked into so as to find out the level of teacher leadership, specifically the domain of shared decision making in order to lead change for the betterment of MRSM teacher performance.

Based on the belief that teachers are agents of change towards making schools effective, Norashikin Abu Bakar, Ramli Basri and Foo Say Fooi (2015) had performed a study on The Relationship between Teacher Leadership and Student Academic Achievement. The role of educational leaders as a one man/woman show in any schools has been challenged in today's world since the ones who are close to the students and make the most changes to produce effective classrooms are the teachers (Muijs & Harris, 2007). Thus, Norashikin Abu Bakar et. al. (2015) had focused their study on the level of teacher leadership among the 387 teachers from 40 schools in Johor and to see the relationship between teacher leadership (if it exists) and student academic performance.

The findings of the study showed a positive significant relationship between teacher leadership and student academic performance. The researchers then, based on the finding, proposed that any professional development programmes should be designed and implemented with the aim of promoting and developing teacher leadership among the teachers so as to produce quality teachers with high performance (Norashikin Abu Bakar, et. al, 2015). To conclude on this literature, teacher leadership is an integral part that contributes to teacher performance which leads to the more reason why teacher leadership of generation Y MRSM teachers should be studied and looked into.

In addition, teacher leadership was also discussed in Philippines. The importance of teacher leadership was once again being stressed by Carmela Canlas Oracion (2014) in her dissertation entitled *Teacher Leadership in Public Schools in the Philippine*. Oracion (2014) wanted to know the different forms of teacher leadership in public schools in the Philippines and what were the approaches to encourage teacher leadership values in teachers. The study also intended to know whether the contextual conditions of the school acted as enabler or did they become the constraints to the development of teacher leadership. This was because Oracion (2014) felt that teacher leadership was a phenomenon of ordinary teachers having characteristics of leaders, doing the leadership work and being supported by the external factors to influence all in the process of improving teacher performance and student achievement. It was a case study research whereby seven principals were selected from schools which had 1) improved scores in NAT; 2) teachers who were given roles and responsibilities beyond their classrooms duties and 3) teachers who had the opportunity to lead in the most important areas of change. After the interview with the principals, the researcher interviewed five to seven teachers of each respective principal.

This study had created a teacher leader profile stating that 1) teacher leaders managed their classrooms excellently; 2) teacher leaders may not be holding formal leadership positions; 3) teacher leaders had been carrying out responsibilities beyond classroom duties; 4) they were capable of leadership work; and 5) teacher leaders were respected by colleagues and students (Oracion, 2014). Teacher leaders were described as competent and focused on their students' success. Even when they were selected as mentors, they were effective ones. They showed concern towards their

colleagues and they were forever developing themselves. Based on the interviews, teacher leaders seemed to be capable of performing leadership tasks such as handling professional development programmes for colleagues, managing teaching related materials as well as getting involved with the parents and the community. In conclusion, they were capable of performing any tasks given, they had leadership skills and they built strong relationship with other parties involved with schools.

To conclude it all, the literature had affirmed that teacher leadership is a paramount aspect of elements that should be in existence in any educational institution. Although there are barriers or hindrances to the development of teacher leadership, most studies are pressed to believe that with teacher leadership, there will be school improvement. Thus, this study has been undertaken with the reason to identify the level of teacher leadership among generation Y MRSM teachers in MRSM due to the fact the teacher leadership plays an important role in shaping the teachers to become better teachers.

2.5 Definition and Concept of Teacher Performance

Teachers are the pillar of any education system (Saedah Siraj & Mohammed Sani Ibrahim, 2012). As things go, teachers are the ones who step into the classroom and deliver content in order for the policies and goals of the education system to be achieved. Thus, a successful education system reflects teachers performing successfully. What is teacher performance? Simply put, it is a record of a teacher's accomplishment (Armstrong, 2000). In a more technical manner, teacher performance can be defined as the teacher's behaviours and results. Behaviours exude from the teacher and these behaviours transform performance from vision and

imagination to action (Jones, Jenkin & Lord, 2006). For the purpose of this study, teacher performance would be defined as the outcomes of the teacher's work because the result contributes the strongest interconnection to the goals of the school and the satisfaction of the stakeholders (Bernadin, Kane, Ross, Spina & Johnson, 1995).

The concept of teacher performance exists due to the fact that the teacher performance is a journey through several levels whereby the teacher produces deeper levels of learning and improves the levels of skill development (Elger, 2017). When they perform at a higher level, they will definitely have a far-reaching impact on student achievement. Increased performance will lead to professional growth of an educator whereby content knowledge, pedagogical knowledge as well as skills will be developed. When teachers assess their performance, they are practising self-reflection on their professional growth and this will provide effective feedback to the teachers.

2.6 Theory of Performance (ToP)

Don Elger (2017) from the University of Idaho has developed the Theory of Performance (ToP). To perform is to be involved in a manifold series of actions which incorporate skills and knowledge to yield valuable outcome. According to ToP, six underlying concepts formed the foundation which can be used to explain performance and improvements in performance. Context of performance is the first component which refers to the situation that the individual or organization performs in. In this study, teacher performance will refer to the context of the school and the environment of the school in which the teacher works in.

The second concept is the level of knowledge and this refers to the facts, information, concepts, theories or principles that one has which will determine one's performance. For the purpose of this study, the concept of the level of knowledge for teacher performance would refer to the teacher's level of knowledge such as content knowledge or pedagogical knowledge. The third concept is level of skills. Skills characterize specific activities that are used by individuals, groups or organizations in various types of performances. In the case of teacher performance, if the performance of the teacher increases, it brings about an improvement in the level of skills of that teacher. Level of identity is the fourth concept of performance and as far as teacher performance is concerned, the level of identity in the teacher matures as the teacher continues serving as an educator. The fifth and sixth concepts of performance are personal factors and fixed factors. Personal factors are related to personal situation of an individual teacher such as his or her relationship with colleagues while fixed factors are any variables which are unique to the individual teacher and cannot be changed such as the characteristics and values of the teacher (Elger, 2017)

Besides the concepts of performance, the ToP further explains that performance can be improved effectively if one holds on to these three principles namely performer's mindset, immersion in an encouraging environment and engagement in reflective practice. The mental process of a teacher would always have to be positive in order to ensure constructive engagement of emotions. When this principle is abode, teachers will set challenging goals and try to achieve them. Whatever is perceived, it will be achieved by the teachers. The second principle of effective performance is immersion in an encouraging environment which refers to physical, social and

intellectual environment. Teachers who participate in professional learning community, assist colleagues to develop themselves and forever interact with other teachers in active learning community are consenting to the second principle of effective performance. The final principle, reflective practice is a convention which involves series of steps to assist teachers to pay attention to and gain lessons from experiences. Teacher appraisal is believed to be one of the effective reflective practices for this third principle (Middlewood & Cardno, 2001).

Thus, it can be concluded that ToP is a belief that enhances the fact that teacher performance is a mandatory factor in increasing school performance and student achievement.

2.7 Research on Teacher Performance

There have been many research conducted on teacher performance. Tony Bush (2009) in his editorial, *Assessing Teacher Performance*, posted a growing apprehension in England which had been epitomized by other countries, that student learning was being constrained by below-average teaching. This concern had called for performance assessments of teachers to gain formative and summative facts or data about the quality of teacher performance (Knight, Lloyd, Arbaugh, Garrison, McDonald, Nolan & Whitney, 2014). Data for Performance appraisal for the year 2015 had shown 51.1% of the teachers were evaluated as excellent in their performance while 39.9% were having a high performance level. There were still 5% of teachers in Malaysia who fell into the category of having average and low performance (Kementerian Pendidikan Malaysia, 2015). This is definitely accentuating on the teaching performance.

Teacher performance is highly determined by two factors namely intrinsic motivation and extrinsic motivation (Firestone, 2014). That was the finding of the article *Teacher Evaluation Policy and Conflicting Theories of Motivation*. Intrinsic was explained in terms of teacher's autonomy and self-efficacy in order to perform while extrinsic was in the hand of the principal or administrators of the school in providing administrative support, enough physical facilities, adequate instructional resources and of course the workloads (Firestone, 2014). Based on the review by Firestone (2014), teacher performance was definitely imperative to an improved school performance.

However, the challenge of below-average teaching or also termed as under-performing teaching had caught the attention of Bourke, Lidstone and Ryan (2013) to deliberate on teacher performance. Since the Australian Government expressed the need to redefine education for several purposes such as encouraging compliance with government policies, teacher performativity had been one of the main focuses of professionalism. The problem being addressed by Bourke, Lidstone and Ryan (2013) was the acceptance of performativity according to the National Professional Standards for Teachers in Australia. This qualitative study had interviewed 20 Queensland teachers for feedbacks on their acceptance of the teacher performativity. The findings of this study showed some teachers were in the category of unresisting acceptance. They accepted the standards that should be the guidelines for their performance (since they experienced initial teacher education training which stressed on the standards of teacher performance) or for evaluation of their performance for that matter (when they were being appraised for their performance). Some others

were considered in the category of resistance (passive resistance, subtle resistance, overt resistance, assertive resistance and aspirational resistance) which means one way or another, performance was not perceived as substantial to their career as educators. Bourke, Lidstone and Ryan (2013) ended their study with an emphasis on teacher performance and that policy makers should have stressed more on the issue of performativity which was very relevant to this study.

In addition, Cohen and Goldhaber (2016) discussed teacher performance from the perspective of classroom observation. This conceptual paper underlined that teacher performance was an essential aspect of teaching and the standard of performance would be increased when classroom observation was held with accurate measurement considering all the contextual factors. Hopkins (2016) added student performance data to the classroom observation as performance appraisal due to his belief that teacher performance was important and student performance was reflective of the standard of teacher performance. A random stratified sample of 5000 teachers from elementary, middle and high schools across the United States participated in this online survey. The findings of this survey validated that student performance is reflective of teacher performance and it is very imperative that teacher performance be increased for school improvement. Thus, considering the MRSM student performance in SPM Examination for the past few years, teacher performance, specifically generation Y MRSM teacher performance should be taken into consideration.

2.7.1 Teacher Performance and Appraisal

There was a growing demand that teachers be made accountable for what went on in their classrooms (Jones, Jenkin & Lord, 2006). This means teacher performance appraisal is aimed for developing effective teacher performance. Danielson (2011) stated that credibility in an evaluation system for teacher performance was paramount. The demands of today's teachers were for them to be professionally competent, to have an accelerated advancement in the knowledge acquisition and to have skills across other professional fields like administrator, social worker and manager (Jones, Jenkin & Lord, 2016). To confirm that teacher performance meets these demands, evaluation or appraisal of their performance should be carried out. Thus, this study intends to look into the level of teacher performance of the generation Y MRSM teachers so as to identify whether they plan and prepare for their teaching and carry out their responsibilities as teachers.

2.7.2 Teacher Performance and Standards

Assessment of teacher performance is of the essence. The assessment's processes need to involve setting standards, evaluating actual achievement of employees against predetermined standards and provide feedback in order to encourage employees to eliminate elements that prevent them from achieving the prescribed standards (Ab Aziz Yusof, 2008). Standards are definitely the main indicator of performance level.

There are several standards set by most countries in the world to evaluate teacher performance. Oregon Framework for Teacher and Administrator Evaluation and Support Systems has set the key themes for standards of teacher performance.

1) The first standard is in the area of personalized learning for diverse learner which refers to the teacher understanding of how learners grow and develop, how learners varied individually in terms of cognitive, linguistic, social, and emotion.
2) The second standard is the cultural competence which refers to the teacher understanding of individual differences and diverse cultures and communities.
3) The third standard is a stronger focus on application of knowledge and skills which are the content knowledge of the teacher and the teacher's skill to associate concepts and different perspectives to local and global issues.
4) The fourth standard is improved assessment literacy whereby the teacher understands and applies varieties of assessment to engage learners in their development.
5) The fifth standard is a collaborative professional culture which refers to the teacher collaborates with other school professionals, colleagues and community members in order to advance the profession; and
6) The final standard is new leadership roles for teachers which refers to teachers seeking appropriate leadership roles and opportunities in order to ensure student learning and development

(Oregon Department of Education, 2017).

Basically, these standards correlate with the domains of teacher performance by Danielson (2013). Understanding of learners and cultural competencies are parts of the domains planning and preparation as well as classroom environment of The Framework for Teaching (Danielson, 2013) whereby teachers are expected to perform by knowing and understanding their students and preparing a conducive

environment for learning to take place effectively. Application of knowledge and improved assessment literacy from Oregon Department of Education (2017) are in the same domain of instruction from Danielson (2013) in the sense that teachers need to show high performance in delivering instruction and implementing assessment to evaluate students' understanding of the instruction. Likewise, collaboration and teacher leadership of Oregon Department of Education (2017) would be in the same domain as professional responsibilities of Danielson (2013). In order to improve teacher performance in terms of professional responsibilities, teachers are encouraged to collaborate and to practise leadership values.

In addition, teacher performance is also a priority in Hawaii whereby The Hawaii Teacher Performance Standards (2014) were designed to monitor teacher performance. It is more extensive covering ten areas.

1) The first area is learner development which pertains to the teacher understanding that the development of learners cognitively, linguistically, socially, emotionally and physically is varied individually.
2) The next area is learning differences which relates to the teacher understanding of individual and cultural differences of the learner.
3) The third area is learning environments which involves the teacher awareness of the need for supportive environment in order to create learner's motivation, positive social interaction and active commitment to learning.
4) The fourth area is the content knowledge which refers to the teacher's knowledge of subject matter.
5) The next area is application of content which relates to the teacher's skills in delivering content knowledge to the learners.

6) Another important area is assessment which involves teacher's recognition of multiple methods of learner's assessment.
7) The seventh area is planning for instruction which pertains to teacher's pedagogical mastery in delivering content knowledge.
8) Instructional strategies is another area of standard which refers to the teacher's ability and skill of applying variety of instructional strategies to produce interesting learning sessions.
9) The ninth area is professional learning and ethical practice which involve the teacher's commitment in on-going professional learning.
10) The final area is leadership and collaboration which relates to teacher's upholding appropriate leadership roles and opportunities for collaboration with other people to advance the profession.

Basically, The Hawaii Teacher Performance Standards (2014) stressed on the planning and preparation for teaching, creating a conducive environment for learning, having effective instruction in terms of knowledge, delivery and assessment and practising teacher leadership as well as participating in professional development so as to maintain high performance.

In Malaysia, teacher performance is also parked in the limelight. Teacher performance was constantly assessed to achieve a defined performance outcome (Vello & Zolkepli, 2011). A study on teaching quality and performance among experienced teachers in Malaysia (Siti Rafiah Abd Hamid, Sharifah Sariah Syed Hassan & Nik Ahmad Hisham Ismail, 2012) discussed teacher performance as an important element of educational institutions. This quantitative study was administered among 2000 school teachers from various types of schools in Malaysia.

The findings confirmed that cognitive ability and personality of the teachers influenced classroom management and teacher's commitment and responsibilities. This has proven that teacher performance is of the essence in schools and it is natural that this study instends to look into the performance of the generation Y MRSM teachers.

The second wave of Malaysia Education Quality Standard (SKPMg2) is a standard set to ensure the revolution acts of the country's education to be in line with the need for education at international level. It is a self-assessment tool to ensure more systematic management and help the schools identify their strengths and weaknesses. This management is important for teacher performance and ultimately the school improvement. SKPMg2 has been implemented since March 2017. SKPMg2 has outlined eight areas of standards to be met by the teacher leader namely professional knowledge, professional skills, professional values, creativity and innovation, strategic collaboration, communication, classroom and activities management and resource management.

The aforesaid standards of teacher performance have definitely justified the important role of effective teaching which will lead to significant improvement in teacher performance. Nonetheless, the Secondary Education Division, MARA has set four domains in evaluating teacher performance which are inclusive of all the standards from SKPMg2 and these domains are the Framework for Teaching by Charlotte Danielson (2013). Thus, this study attempts to identify the level of generation Y MRSM teacher performance based on the domains by Danielson (2013)

namely planning and preparation, classroom environment, instruction and professional responsibilities.

2.8 Definition and Concept of Professional Development

Boyle, Lamprianou and Boyle (2005) interpret professional development (PD) as

> *…the continual deepening of knowledge and skills as an integral part of the professional development of any professional working in any profession*.

Professional development also refers to the occasions that engage teachers' creative and reflective capabilities to heighten their practice (Bredeson, 2017). In the study of the implementation of professional development programmes and their relationship with the commitment of teachers from SMKA schools in Johor, Nurul Afiqah Ahmadoon (2013) has characterized professional development as a process which is intensive, on-going and systematic with the aim of improving teaching and learning and school environment.

Nonetheless, for the purpose of this study, professional development is defined as formal and informal learning experiences and processes that lead to intensified understanding and advancement of practice (Broad & Evans, 2006).

The International Education Academy has outlined ten concepts of teacher professional learning and development (Timperley, 2005). The first concept is professional development has to be designed to focus on valued student outcomes. Any initiatives for teacher professional development programmes must have links between selected teaching activities and valued student outcomes which are hoped to

give a strong impact on the outcomes. The second concept is having worthwhile content. The information and skills gained from the professional development programmes should have been ascertained as effective in accomplishing valued student outcomes. Integration of knowledge and skills should be the next concept applied in implementing professional development programmes. There are crucial knowledge and skills for teachers to promote deep learning and to make sure productive changes happen in teaching practice. Timperley (2005) outlines assessment for professional inquiry as the fourth concept to be understood when actualizing professional development programmes. Knowledge about what students need to comprehend and what they need to do play a significant role in identifying what the teachers need to know and do.

Abundance opportunities to learn and rooms for application of information should be parts of the design for professional development programmes. This is the fifth concept whereby teachers should be given multiple chances to learn new information and then understand its implication for practice. The next concept is that professional development should stress on approaches that are responsive to learning processes. New ideas require different approaches and professional development should expose teachers to these new approaches to ensure that teachers are consistent with the current development in education. The seventh concept is opportunities to process new learning with others. Collegiality is an important aspect of learning to take place. Interactions with others that focus on student outcomes assist teachers to integrate new knowledge into existing practice. The concept of having knowledge expertise should be part of professional development because expertise beyond existing group of teachers will challenge the existing knowledge. The ninth concept

is active leadership. Educational leaders whose organizations are involved in professional development play the main role in making sure PD achieves its objectives and develops outcomes which improve student performance. Finally, the tenth concept of professional development is maintaining momentum. When the teachers have solid theoretical knowledge, improved skills and supportive conditions in terms of environment as well as the support from administration, then sustained improvement will be achieved (Timperley, 2005).

2.9 Theory of Change

The root of theory of change (ToC) is from programme theory and program evaluation (Vogel, 2012). This theory promotes social change. According to this theory, any programme which is being executed effectively, going through evaluation stage will produce effective outcomes. Thus, 'theory of change' has come into perspective to describe the steps of actions that lead to the objectives or goals of the organization as well as the association between the actions and goals achieved (Weiss, 1995). ToC represents an increased desire for organisations to be able to explore and represent change in a way that reflects a complex and systematic understanding of development (James, 2011). In this research, professional development is based on the theory of change whereby the theory stresses on the on-going process of consideration to analyse change and how it happens. Activities are done in an organization would always be planned with the intention of producing outcomes that would give positive effects to the organization according to the theory of change.

In order for professional development to be effective, programmes are designed to meet the teachers' needs such as courses/workshops, education conferences or seminars, qualification programmes, participation in a network of teachers, individual or collaborative research or mentoring. Upon implementation, assessment of programmes' effectiveness should be performed. Participants rate the programme, participants' attendance is also rated. Based on the data, suitable consolidation actions will be designed to improve and maintain positive outcomes (OECD, 2009). Thus, theory of change has supported professional development because PD is a 'road map' or 'blueprint' from getting 'here to there' (Stachowiak, 2013). With professional development, a teacher will move from amateur to a professional making their teaching more effective.

2.10 Research on Professional Development

Professional development has been an issue dealt by many. Edwards, Sandoval and McNamara (2015) had performed a study to find the best way to improve the Faculty of developmental mathematics class in order to raise the number of students passing the subject. 80% of the 40 million students who enrolled in the developmental mathematics class as a requirement for college-credit failed to complete the course within three academic years. This means millions of registered students missed to master the essential mathematics skills and to move on in lives. Researchers felt that there was a need to change the community college Mathematics teaching and thus suggested a professional development system for pathways faculty which was termed as The Faculty Support Program (FSP). FSP was a programme which provided sustained opportunities for professional learning, job-embedded activities to support emergent problems of teaching, context/discipline-specific learning activities,

collaborative reflection opportunities and activities which centred on classroom practice. Researchers interviewed teachers involved for the initial term of 2014-2015 in order to analyse the effectiveness of professional development FSP. The findings of the study were online commitment by the teachers was very scarce and from the faculty mentors who were in attendance for the seminar and workshop, very few teachers completed the 30 to 35 hours of involvement for over all components. The faculty largely relied on faculty mentors at their own colleges to share the content of FSP.

The findings had urged researchers to redesign the FSP to meet the needs and work processes of the faculty. Several amendments were made to the structure and implementation of the professional development FSP and being retested. The redesigned FSP were said to be effective, efficient, responsive, centred on community and faculty. The change was from a professional development system which focused on learning goals, mathematical content, pedagogical content, etc. to a programme centred on the processes and structures that affected the access and the commitment of the faculty (Edwards, Sandoval & McNamara, 2015). This study had proven that professional development gave an impact on the outcome of any process in an organization especially educational institution and it had to be designed to meet the needs of the participants.

In addition, Kennedy (2016) had written a review on professional development studies performed so far. She sorted the studies according to the underlying theories of actions. She reviewed 28 studies and discussed the issue of research design for professional development. The first finding was most reviews of PD explored a list

of pivotal programme design attributes such as programme duration, subject matter, number of contact hours or types of learning activities. However, Kennedy concluded that programme design attributes may be undependable predictors of programme favourable outcome. The second finding was most PD should centre on content knowledge. Nonetheless, several studies proved that PD focusing exclusively on content knowledge seemed to have less impact on student learning. The third finding was most acknowledged design feature was collective participation which put a stress on professional learning community. Be that as it may, Kennedy (2016) urged readers to go beyond the learning community concept and indulge more on the point of discussion and the nature of intellectual work that these PLC groups were into. Intensity was the fourth finding on PD such as the rigorous contact hour to fulfill the PD session. Effective messages from PD provided insights and development strategies in contrast to intensity. The fifth finding from the review was PD would be more effective if teachers as participants were treated more as colleagues giving a helping hand to the speaker in trying new approaches or teaching instructions. They considered it to be socially motivated. Highlight should also be given to the personnel who provided or managed PD whether they were considered as experts in the field, how were they chosen, how well-prepared were they and how were their efficiency being evaluated. Some PD gave adverse effects on participants may be due to contention towards the demands of PD (Kennedy, 2016). Based on this review, suffice to say that there were a lot of factors to be considered when implementing professional development for it to be effective and meet its goals. Thus, this study intends to find out the level of professional development among the generation Y teachers in MRSM and the domains involved in this professional

development which can be considered as contributing factors to the implementation of PD.

Furthermore, in Singapore, Bautista, Toh and Wong (2016) had carried out an exploratory study on professional development motivations, needs and preferences. The samples of this study were 286 primary music teachers (about 40% of the entire population of music teachers in Singapore) who were majoring, minoring and generalist in music. They intended to look into how motivated are these teachers to join the music specific PD based on their background qualification. For music specific PD, researchers would like to know what specific content area would they want to learn and with whom would they want to learn from.

The findings showed that they were not equally motivated to take part in music specific PD. The higher was their qualification (major in music), the more driven they were to pursue their PD. All participants were responsive towards music specific pedagogies and music technology as the choice of content. Their choice of facilitators for PD differed based on their qualification. The higher their qualification, the more reason they wanted to choose facilitators with practical experience. Formal courses and diplomas were the format of choice for the music teachers who were majoring in music. The minor and generalist would prefer short duration events such as workshops and seminars. Peer collaboration and mentoring were middle ranked by the participants. This study had proven that PD has made an impact on the teachers but in designing the PD, several factors have to be taken into consideration in order for the programme to be effective in improving teacher and student performance.

On top of that, eMINTS or enhancing Missouri's Instructional Network Teaching Strategies is a professional development programme implemented in 60 high-poverty rural schools in Missouri, USA involving 200 teachers and 3000 students. Meyers, Molefe, Brandt, Zhu and Dhillon (2016) presented the finding of this PD evaluation. eMints provided intensive (240 hours) professional development programmes over a period of two years. Many chances for hands-on exercises that were relevant to daily instructional practice were made available. Teacher communication and collaboration were ignited by the collective participants who supported school changes. Technology was integrated in this PD. The findings of this study after three years was changed in teacher instructional behaviour for the better and increased student achievement in mathematics. This means that very well structured and intense PD programme contributed to the school achievement in terms of teacher performance or student attainment. This study had proven that it is important to identify the level of professional development among the generation Y teachers in MRSM in order to identify whether or not PD implemented so far in MRSM is well structured and intense in its implementation.

2.11 Teacher Leadership and Teacher Performance

Some scholars believed that teacher leadership has a significant influence on teacher performance. Bastian, McCord, Marks and Carpenter (2017) had performed a study on A Temperament for teaching? Associations between personality traits and beginning teacher performance and retention. They looked into personality traits of 1790 beginning teachers and evaluated their performance. The findings showed that teachers with high level of performance had a high level of conscientiousness. This

showed that they were dutiful and honest in performing their responsibilities. A subdomain of conscientiousness was general self-efficacy. Bastian et. al. (2017) concluded their findings with conscientious teachers engaged in behaviours and teaching decisions that contributed to the teachers' success. This is definitely the values of teacher leadership which has been proven to give impact to teacher performance (Nor Asma Sheirnawani Abdul Rahman et. al., 2015).

Another study that discussed the relationship between teacher leadership and teacher performance is the study done by Al-Mahrooqi, Denman, Jamila Al-Siyabi and Faisal Al-Maamari on Characteristics of a Good EFL Teacher: Omani EFL Teacher and Student Perspectives (2015). 171 Omani students and 233 English teachers involved in this study agreed that instructional competence referring to teacher's ability to create positive classroom environment with mastery of content knowledge, personality which was teacher ability to show patience and understanding and teacher-student relationship which referred to teacher's ability to collaborate with students and colleagues were the characteristics of high performing teachers. These characteristics were domains of teacher leaders and when these domains were in practice, it meant they were highly performing teachers (Al-Mahrooqi, 2015).

The strong relationship between teacher leadership and teacher performance was also clear in a research done by Carter (2018). This qualitative research performed in the state of Missouri, United States of America involved 10 principals and ten teacher leaders in the respected principals' schools identified by the principals. The purpose of this research was to identify the qualities of teacher leaders and how the identified teacher leaders utilized the potential they had for themselves. Interesting findings by

Carter (2018) were the comprehensive theme "Let's Go." Under the theme "Let's Go," Carter (2018) had identified four (4) sub-themes namely: 1) "I'm here for you," 2) "You can count on me," 3) "Let's go together," and 4) "Let's keep our school moving forward."

The first sub-theme indicated that the teacher leaders performed better in terms of their relationship with students and other teachers. They created meaningful relationship with involvement and devotion when interacting with others. For the second sub-theme, they also performed better as colleagues that everyone could depend on. These teacher leaders relied on other teachers and in return, other teachers, students as well as principals could rely on them. The third sub-theme reflected the performance of teacher leaders as team players. Carter (2018) found that these teacher leaders were willing to work alongside others and deal with problems together. Finally, the fourth sub-theme proved that these teacher leaders looked forward to try new things and to be innovative. They performed in multiple capacities to keep their school moving forward (Carter, 2018).

Donnie Adams, Syafizza Norida A. Samat and Humamuddin Abu Samah (2018) shared that teacher leadership was the compelling means to inspire teacher performance. This was because the work of a teacher was no longer within the boundaries of classrooms. They were willing to step up and step out of classrooms to be a helping hand in school, district, state or even national level. Thus, it was time for more teachers to shoulder the role of teacher leaders through the spreading of best practices, collaboration and involvement in professional learning community that had guaranteed the improvement in teacher performance.

The importance of teacher leadership for the purpose of the betterment of teacher performance was once again being iterated by Allen (2018) in her article Teacher leadership and the advancement of teacher agency. This article stressed on teacher leadership was moving forward in securing better performance of teachers which in return motivated pre-service teachers to stay and in-service teachers to be more motivated to work harder. Implementing the Iowa teacher leadership and compensation system, Allen (2018) found that experienced teachers were motivated to perform due to the fact that the system provided leadership opportunities for experienced teachers. The system itself supported conditions that characterized impactful, high-quality professional development which led to high teacher performance. Allen (2018) concluded her research by accentuating that elements of teacher leadership when being utilized to address the issues that challenge the field of education would give rise to effective teaching and learning.

2.12 Professional Development and Teacher Performance

Effective professional development was said to give a positive impact on teacher performance. Firestone (2014) in his article review, Teacher Evaluation Policy and Conflicting Theories of Motivation, had concluded that teachers who performed were teachers with intrinsic and extrinsic incentives. Effective professional development was a form of intrinsic incentive whereby PD challenged teachers intellectually, engaged them in collaborative settings which would offer opportunities for instructional improvement. The result of all these was enhanced competence driven by intrinsic incentives. Improved competence was high teacher performance.

In addition to that, Yendol-Hoppey and Dana (2010) in their book, Powerful Professional Development, iterated that professional development had an impact on teachers in terms of skills development. PD increased self-confidence of teachers when dealing with students in classroom and PD assisted in the professional growth of the teachers. All these contributed to improved teacher performance when their skills, self-confidence and professionalism were developed.

The role of professional development in enhancing teacher performance was being the focus of a research by Maissan and Perry (2018). Using digital peer observation process as part of professional development, they managed to evaluate teacher performance. In this research, technology had been utilised and the teachers involved were provided with feedback on feedback. This had enhanced the collegiality among the respondents and they started to reach out to colleagues for advice and feedback regarding their teaching so much so that their performance had improved. Although the initial purpose of this research was to determine whether technologies could help in critical reflection for professional development and performance evaluation, it had indirectly proven that professional development that had been going on with the assistance of technologies had resulted in increased teacher performance.

In addition, Baker, Chaseling, Boyd and Shipway (2017) had discussed the mandatory professional development programme in Australia that had the potential to improve teacher performance. A new mandatory professional development process was designed based on the performance and development framework which was applied to all teachers for accreditation. The accreditation was in line with the Australian Professional Standards for Teachers so much so that the teacher

performance was maintained. Teachers had to participate in 100 hours of professional development programmes for certification. Renewal of this certification was done in every five (5) years which meant all teachers participated in professional development in an on-going manner. The findings of this research revealed the initial response of the teachers stating that the professional development programme was a 'hit and miss' due to the fact that only 20% of the programme focused on improvement of teaching and learning, while 80% focused on compliance issues. The second and third response then showed that they had more control on the professional development programme with more focus on the improvement of teaching and learning—teacher performance (Baker, et. al., 2017). The teachers concluded that they were more interested in professional development and were more confident in teachers' sense of responsibility for PD which guaranteed their improved performance.

Another research on professional development performed by Borg, Clifford and Htut (2018) in Myanmar for teacher educators had proven to be effective for teacher performance. The English for Education College Trainers Project (EfECT) was a large-scale teacher educator professional development initiative in Myanmar. It was a 240 hours of study (2 years duration) completed on top of teachers' normal teaching hours alongside with other extra responsibilities in the school. This professional development programme had proven to improve teacher performance in terms of teacher knowledge, teacher confidence and teaching and reflection. It was concluded that EfECT professional development programme provided professional learning environment for the teachers, fostering collaborative leaning groups among them. Besides, it had a practical orientation, focused on specific instructional

strategies and context-sensitive which brought about improvement in teachers' teaching skills—teacher performance.

2.13 Teacher Leadership and Professional Development

The existence of relationship between teacher leadership and professional development had been discussed by many. Sugg (2013) had shared her findings of her dissertation stating that teacher leadership played a significant role in enhancing the teachers' interest to increase their development capacity in turnaround schools. Likewise, Davignon (2016) discussed the use of teacher leaders as a method to retain novice teachers in schools. Characteristics of teacher leaders were being stressed in the professional development programme for the novice teachers and trust had been developed by the new teachers to develop themselves in terms of the teacher leader values.

Bussel, Justice, Bang and Damiron-Alcantara (2018) produced an interesting article on leadership and its domination on professional development of teachers. They investigated the influence of leader's learning-path strategies (for professional development) on teacher's learning path strategies. Whether or not the teacher's learning-path strategies conformed to the leader's expectation of the learning-path strategies in professional development for teachers. The findings showed that the most common type of influence leaders had on professional development of teachers was the collaboration and teamwork initiated by leaders in teachers' professional development.

Deductively, collaboration and teamwork were domains of teacher leadership and thus, these domains had influenced teacher interest in professional development. Another type of influence by the leaders on teachers' professional development was the provision of material facilities for learning such as location for professional development courses and financial resources. Leaders were also said to influence professional development when they provided social support to the teachers who described these leaders as 'socially supportive people manager' (Bussel, et. al., 2018).

An appealing observation which stated that there was a potential relationship between the awareness of the importance of training programmes to improve leadership among leaders with the implementation of professional development programmes for the teachers was in a research by Campos-Garcia and Zuniga-Vicente (2018). Their study on the impact of a leader's demographic and professional characteristics on employee motivation cited that leaders' prior training to develop knowledge and skills (professional development) would uncover receptiveness to develop teachers' cognition and expertise. This meant that a leader could choose to conduct professional development programmes or not (Campos-Garcia & Zuniga-Vicente, 2018). Thus, it could be said of relevance that if a teacher was a teacher leader and had a receptive mind for the need to develop his or other colleagues' performance would encourage other teachers to participate in any programmes for the purpose of professional development.

2.14 Generation Y

What comprises a generation? Howe and Strauss (2007) listed down the events or circumstances according to which phase of life its members occupied at the time to constitute a generation. There are several differences in opinions as to who are included in the pool of generation Y. Behrstock and Clifford (2009) defined generation Y as the cohort of people born between 1977 and 1995 while Howe and Strauss (2007) identified generation Y to be the group of people who were born between 1982 to roughly 2005.

In Malaysia, generation Y employees compose of more than 50% of the Malaysian workforce (Coopers, 2012). This data implies that generation Y in Malaysia is soon becoming the main backbone of the workforce. In Maktab Rendah Sains MARA (MRSM) throughout Malaysia, there are 2941 generation Y out of 3528 teachers. With the total amounting to more than half of the teacher population in MRSM, this group of generation Y is able to have a big impact on development and improvement of MRSM.

2.14.1 Characteristics of Generation Y

Behrstock & Clifford (2009) described Generation Y to be highly educated and educationally minded. They associated their success to their educational opportunities. They were extremely at ease with technology and would be very dissatisfied with disconnected or technologically impaired workplaces. At the professional level, they were creative, innovative and had high self-confident. They were happy to share what they had learnt through collaboration in small groups very ardent for their work to make a difference or to contribute to positive change.

Generation Y was further described by Behrstock and Clifford (2009) to hold strong moral values such as being very connected to their family and were highly motivated to join a more open and broad-minded society. When they stepped into the working world, they would prefer diversity and extensiveness.

Howe and Strauss (2007) characterized generation Y as more confident, trusting and teachable in the workplace. Nonetheless, they were more pampered, risk opposing and quite dependent resulting in employers complaining about their demand for constant feedback and weakness in basic job skills such as punctuality and proper dress code. They used their digital empowerment for their benefits to maintain close relationship with colleagues.

In an article entitled Generation Y in the workforce: Managerial challenges by Meler, Austin and Crocker (2010), generation Y was described as having confidence and being quite goal-oriented. Born into technology, they were more knowledgeable about the digital world than their teachers or even parents. They craved to continue their education and wished to be treated on an individual basis. Constant acknowledgement was something on top of their list be it positive or negative and rewards must arrive quickly. These people feel motivated when they were given the freedom to work as they please, not wanting the superiors telling them what to do at all time. Flexibility in the workplace was also of utmost important to generation Y.

2.14.2 Generation Y Teachers

There are several studies performed discussing the generation Y teachers. In Turkey, Balc and Bozkurt (2013) conducted a study of 218 generation Y teachers in selected

primary and secondary schools in Turkey. This study aimed to explain the expectation of the work task for this generation. The results showed that the generation Y wanted high technology use at work and they valued and upholded their performance and skills. Generation Y teachers had less commitment to the organization and less commitment to their workplace. Generation Y teachers respected their friends at work on the basis of respecting someone who was in the same office rather than respecting others for their knowledge and experience. This generation teachers perceived their work as a means of paying their bills; wanted to work hard only when necessary; preferred learning a particular skill using computers at work and did not perceive counselling services as necessary. They expected commitments made to other additional jobs and preferred to balance their personal lives with their working lives.

The American Federation of Teachers and American Institutes for Research had produced a report on Workplaces that supported high-performing teaching and learning (Coggshall, Behrstock, Drill, Menon, & Cushing, 2011). This report provided insights from generation Y teachers. The perceptions were as follow:

1. Generation Y teachers tended to desire more frequent feedback on their teaching impact from friends, mentors as well as school administrators than from their more veteran colleagues.
2. Generation Y teachers tended to be more open, have more experience and share practice with others of the same age group.
3. Generation Y teachers desired differentiation in rewards and approvals for themselves and their colleagues for their effort and performance.

4. Generation Y teachers wanted to be evaluated, but tended to be very concerned about fairness and validity in teacher evaluation.
5. Generation Y teachers tended to be very enthusiastic about instructional and social networking technology but expected more from technology than what many schools could deliver.

Mokoena (2012) in South Africa provided ten (10) strategies for school administrators in order to support and retain generation Y teachers in schools after comprehending their core traits (they were made to feel they were special, they had been sheltered by parents and society, they were confident with high degree of entrustment and enthusiasm, they were team-oriented, they were conventional and they had been pressured to study hard, thus were high achieving and highly educated). Table 2.1 describes the strategies for supporting and retaining generation Y teachers by Mokoena (2012).

Table 2.1

Strategies for supporting and retaining generation Y teachers

	Strategy	Emphasis for generation Y teachers
1	Establish a shared vision and set goals	Involve generation Y teachers in this process
2	Encourage shared leadership	Empower generation Y teachers to assume leadership
3	Create a positive and supportive school environment	Celebrate generational differences and the unique contributions of each
4	Select and assign teachers effectively	Realise that the career ambitions and loyalties of generation Y teachers differ from their predecessors
5	Improve teachers' skills, knowledge and capabilities	Provide professional development opportunities that involve collaboration and technology
6	Adopt effective tool and teacher	Offer in-depth feedback to

	evaluation and mentoring	generation Y teachers and offer appraisal where needed
7	Use time effectively	Set aside time for regular collaboration with Generation Y teachers
8	Use technology effectively	Create space for generation Y teachers to use technology to improve instruction
9	Ensure that school facilities are adequate and functional Table 2.1 (Cont)	Ensure the availability of latest information technology
10	Provide effective instructional leadership	Provide transparent personalised guidance and mentoring to help advance generation Y teachers' instructional practice

Source: Behrstock & Clifford (2009), Mokoena (2012)

2.15 Demography

There are three aspects of demography discussed in this research namely gender, qualification and class of degree.

2.15.1 Gender

Several studies had shown that gender brought about differences in organization (Fakhra Aziz, Qudsia Kalsoom & Uzma Quraishi, 2017; Kis & Konan, 2014). Nonetheless, several studies refuted the finding (Pavlovic, 2014; Pace & Pace, 2005). Campos-Garcia and Zuniga-Vivente (2018) had looked into the gender demography in their research, the impact of a leader's demographic and professional characteristics on employee motivation. Their findings showed gender demography had no impact on teacher motivation. Thus, gender demography is taken into consideration in this research to identify whether there is a difference in teacher leadership, teacher performance and professional development between male and female teachers.

2.15.2 Qualification

Quah Chun Hoo, Aizzat Nasurdin, Guok Eng Chai and Joshua Ignatius (2009) in their journal found that there was a difference in workers trained in a foreign country in comparison to those who were trained locally. The ones from the universities abroad were said to be more independent, creative, self-assured and street-smart. Cannon (2000) wrote an article on the outcomes of an international education for Indonesian graduates: The third place? He deliberated on the existence of the third place in professional society in Indonesia referring to a culture of workers who had the advantages of an overseas education. Overseas graduates were said to have different intellectual abilities, attitudes and cultural perspectives than of the local ones. Thus, this study intended to look into the question, is there a difference in teacher leadership, teacher performance and professional development based on the generation Y teachers qualification (locally graduated or oversea graduated).

2.15.3 Class of Degree (CGPA)

The final demography is the class of degree (CGPA) which refers to the level of qualification of the teachers. Is there a difference in teacher leadership, professional development and teacher performance between teachers who have a degree with satisfactory qualification (CGPA 3.00 and below) and those with good qualification (CGPA 3.00 and above)? Guyton and Farokhi (1987) had contemplated on the issue whether successful academic performance assured high quality of teacher performance or not. Several measures of academic achievements of teacher education were correlated with on-the-job performance assessment. Another study by Berg (1970) also showed teacher productivity did not vary in term of their formal

education qualification. He further elaborated that training on the job was more important than educational credentials.

2.16 Summary

This chapter discussed past research on teacher leadership, teacher performance and professional development. The study is comprehensive covering research from countries in the world extensively, across time and taking into consideration all sorts of demographic values.

Generally, the findings from the literature show that teacher leadership plays an important role in educational institution. Teacher leadership brings about instructional improvement and increases student achievement. Teachers practising leadership domains would contribute to the development of school performance as well as student achievement. Teacher performance is also crucial in making sure that the quality of student outcome is guaranteed. Several issues regarding professional development are being identified and discussed in order to prove that professional development is paramount in this study.

Based on the discussion of this chapter, this study intends to look into the impact of teacher leadership on teacher performance. Is there a relationship between these independent variable and dependent variable? The question of what is the role of professional development in this scenario will also be dealt on due to the finding of its relationship to teacher performance.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter focused on the methodology used to scrutinize the level of teacher leadership among teachers, how teacher leadership affects teacher performance and the role of professional development in the relationship between teacher leadership and teacher performance. The main purpose of this study was to understand how the independent variable influenced the dependent variable and the function of the mediating variable in this relationship. The first part of this chapter focused on the research design, research population, sampling process, research instrument, pilot study, procedures of data collection and data analysis. Finally, the findings from pilot study and data analysis were discussed.

3.2 Research Design

The design of a research plays an integral part in making sure the objectives of doing research are met. It is a set of methods and procedures utilized to collect and measure the variables in a research. Basically, it is a structure to provide answers to all the research questions posed. This research is a quantitative research which deals with numbers and anything that is measurable (Kerlinger, 1973). Quantitative research falls under the vast heading of descriptive research because it explores correlations between two or more variables. It is a non-experimental research since it does not look for causal relationship among the variables. According to Salkind (2003), a descriptive non-experimental research would be describing the characteristics of an existing phenomena while correlational non-experimental research is said to be

examining relationships between variables. This study was implemented with the purpose of explaining how far teacher leadership influenced teacher performance among the generation Y teachers of MRSM and how professional development acted in this relationship.

Choosing the cross-sectional method means a researcher is examining several groups of people at one point in time (Salkind, 2003). It is applied in various fields of research to gather information from several groups of people at a certain time interval. Bailey (1994) describes "cross-section" as a broad sampling of people of different demographic values such as different ages, income levels, religions, educational backgrounds, races and so on. There are several advantages of using cross-sectional method as outlined by Bailey (1994) such as data can be collected from a large number of people and these data are worthy of comparison since they are not afflicted by changes over time. Salkind (2003) further describes the advantages of cross-sectional method being definitely inexpensive in addition to the short time span to perform the research. This method also guarantees low dropout rate and it requires no long-term management or commitment between the researcher and respondents. Due to the fact that the population of MRSM teachers is enormous, this study had adopted the cross-sectional method based on its advantages.

Data collection for this study was in the form of survey study from questionnaires taking into consideration its advantages in contrast to other techniques such as group discussion, documentation analysis or observation. Questionnaires seem to work better due to some basic assumptions such as the questionnaire does not make preposterous or irrational demands upon the respondents involved nor does it have

any hidden agenda. Normally, questionnaire begs for information that respondents presumptively have (Salkind, 2003).

Respondents will continue to respond to questions if the questions are easily readable and understandable. In addition, questions can be written clearly and briefly which require low level analysis and necessitate short and easy-to-answer answers (Mohd Majid Konting, 1998). Another advantage gained from questionnaire is the responses regarding respondents' attitudes and perceptions to questions can be obtained directly (Feldman, 1985). Besides, questionnaire has a high level of validity and reliability of the data (Kerlinger, 1973).

3.3 Population

Population referred to the target population consisting of all components such as individuals, objects or items whose characteristics are being investigated (Mann, 2005). It refers to a group of potential participants to whom the generalization of the study results could be made (Salkind, 2003). The population of this study was the generation Y teachers in Maktab Rendah Sains MARA (MRSM). This study was done in MRSM throughout Malaysia. There are 54 MRSM to date and the population of teachers of MRSM according to the states in Malaysia is as in table 3.1

Table 3.1

Population of MRSM Teachers

State	No of MRSMs	No of teachers	Generation Y teachers
Johor	5	325	277
Melaka	3	227	168
Negeri Sembilan	3	252	226
Selangor	2	133	120
Perak	7	470	397
Kedah	7	475	408
Perlis	2	95	70
Kelantan	5	308	225
Terengganu	5	337	247
Pahang	5	315	272
Sabah	4	199	185
Sarawak	3	172	151
Pulau Pinang	3	220	195
TOTAL	54	3528	2941

Source: Secondary Education Division, MARA

The total number of MRSM teachers was 3528. Out of this number, 2941 teachers were in the category of generation Y and this was the population of this research. All MRSM were taken into consideration regardless of their location whether they were in rural area or urban area. This was because the location of respondents' schools was not affecting the variables.

3.4 Sampling

Sample is a portion of the population purposely selected for study (Mann, 2005). If the population is enormous and the coverage area where they come from is wide, not everyone in the population can be tested. Thus, a subset of the population will be the choice. Choosing a sample based on convenience is not advisable due to the fact that biases may exist in the sample survey which would inhibit the result of the research from accurately representing the population as a whole (Ott & Longnecker, 2001). There is also the fact that working with a sample reduces the expenses, time spent and manpower in contrast to working with the whole population (Gay & Deihl, 1996). Choosing to work with a sample instead of the whole population will increase the precision of measurement since it involves a smaller number of respondents and brings about a more systematic process of analysis (Awang, 2012).

In order to maximize the intensity to which the chosen portion represents the population, good sampling technique should be applied. The key word here is generalizability. Salkind (2003) stresses on this criteria when choosing samples due to the fact that when results can be generalized from a sample to a population, then the findings of the research will have meaning over and above the limited setting in which they originally come from. Two general sampling strategies are outlined namely probability sampling and nonprobability sampling. For probability sampling, the possibility of any one member of the population being selected is known while for the nonprobability sampling, the likelihood of choosing any one member of the population remains anonymous (Salkind, 2003).

This research utilized the probability sampling strategy because the decision of who will end up in the sample is determined by non-systematic and random rules making the chance of the sample truly representing the population greater. There are several types of probability sampling such as simple random sampling, stratified random sampling, ratio estimation, cluster sampling and systematic sampling (Ott & Longnecker, 2001).

The sampling technique used in this study was the stratified random sampling. Stratified sampling was used to ensure that the strata (in this case referring to the states in Malaysia) in the population are fairly represented in the sample. The chance of each element being selected as a sample was the same for each element of the population (Mann, 2005). The key words for the chance here were equal and independent. Equal because there was no prejudice that one person would be selected rather than another and independent because the preference of one individual did not bias the researcher for or against the option of another (Salkind, 2003).

Stratified random sampling was a useful method for data collection in this research because the population was heterogeneous coming from different states in Malaysia. Each states had different cultures practising different values and life style (Nagaraj, Nai-Peng, Chiu-Wan, Kiong-Hock, & Pala, 2015). Then, this entire heterogeneous population was divided into a number of groups, specifically 14 groups, based on the states in Malaysia, usually known as strata. The Generation Y MRSM teachers in each group share the same criteria in the sense that the same selection principle were applied when recruiting teachers to work in all MRSM arranged by MARA Headquarter. They had undergone the same training and the organizational structure

of these teachers was the same in all MRSM. Then, units were sampled at random from each of these stratums. The sample size in each stratum varies according to the right proportion of the stratum in the population.

The selection of generation Y teachers as respondents from MRSM in each state was determined at random using the lottery technique of sampling (Alvi, 2016). Thus anyone had an equal chance or equal probability to be identified as a sample. This is the most common way (Singh & Masuku, 2014). Here, each respondent in every stratum was assigned a unique number. The numbers were then thoroughly mixed in a box by shaking the box. Then without looking, researcher selected *n* numbers from each stratum proportionately with the number of generation Y teachers in each stratum. The population members or respondents that are assigned that number are then included in the sample.

How do we estimate the appropriate sample size? There are several points to ponder when estimating the sample size. Mann (2005) poses a question of 'when is "large" large enough?' and goes on stressing that the fundamental key to setting a large enough sample is to focus on the variation in the population and sample of a research. The greater is the variation, the larger is the sample that has to be selected. Salkind (2003) points out several reminders when determining a sample size namely:

1) The larger is the size of a sample (which is reasonable), the better analysis can be performed because the sampling error (Type 1 and type II) will get smaller.
2) If questionnaires are going to be mailed, do consider for lost mail or non-responders by increasing the sample size up to 40% to 50%; and

3) Although large sample size is good, accuracy and appropriateness would always be better as money and time should not be wasted.

There are several ways of determining a sample size which are commonly utilized. Some researchers would refer to the Krejcie and Morgan (1970) determining sample size. Others would use William Cochran (1977) sampling techniques or Cohen (1988) statistical power analysis. A more advanced approach would be using G*Power calculator application to calculate the sample size. Sampling for Structural Equation Modeling (SEM) depends on the model complexity and also many other factors such as normality of data as well as missing patterns (Kline, 2011). Wolf, Harrington, Clark and Miller (2013) found sample size requirements for structural equation modelling ranging from 30 up to 450. Kline (2011) stated that a typical sample size in studies where SEM was used was about 200. Nonetheless, this research was a survey research with the knowledge of the exact amount of population. Without taking statistical power and effect size into consideration since this was not a causal relationship research, this research applied the Krejcie and Morgan (1970) determining sample size for research activities.

The appropriate sample size for this study was determined by 95% level of confidence and 5% margin of error in the findings. According to Krejcie and Morgan (1970) sample size table, 346 respondents were needed from the population of 2941 generation Y teachers. The determination of the number of respondents from each state was based on the proportion of generation Y teachers in that particular state over the whole population of generation Y teachers.

$$n = \frac{P}{Q} \times 346$$

where n is the number of sample from each state, P is the number of generation Y teachers in that particular state, Q is the total number of generation Y teachers population in MRSM and 346 is the sample size according to Krejcie and Morgan (1970). The population and sampling was shown in table 3.2:

Table 3.2

Population and Sampling of generation Y MRSM Teachers

State	Population of teachers	Generation Y teachers	Study Sample
Johor	325	277	33
Melaka	227	168	19
Negeri Sembilan	252	226	27
Selangor	133	120	14
Perak	470	397	47
Kedah	475	408	48
Perlis	95	70	8
Kelantan	308	225	27
Terengganu	337	247	29
Pahang	315	272	32
Sabah	199	185	22
Sarawak	172	151	18
Pulau Pinang	220	195	22
TOTAL	3528	2941	346

The chosen respondents were the generation Y teachers who may hold certain positions such as the heads of departments, heads of units or coordinators which

would make them being identified as teacher leaders literally. Others would be generation Y teachers with no formal positions. The samples selected using lottery method of sampling amounted to 350 to be used for data analysis.

3.5 Research Instrument

Instrument is the general term that researchers use for a measurement device (survey, test, questionnaire, etc.). Instrumentation is the course of action or the process of developing, testing, and using the device. Questionnaire is one type of instruments commonly used in researches. Questionnaires are used to determine the opinions, perceptions and respondents' attitudes towards an issue or phenomenon (Othman Talib, 2013). Some of the advantages of questionnaire outlined by Othman Talib (2013) are easy to administer, cheaper and getting instant information from the respondents. Administering questionnaires is not time-consuming due to the fact that individuals may answer the questions without the assistance of the researcher (self-administered).

If the questionnaires are sent by postal service, the geographical area that could be covered is broad. Most importantly, answering the questionnaires may encourage respondents to be more truthful because their anonymity is assured (Salkind, 2003). Some basic assumptions about the design and use of questionnaires mentioned by Salkind (2003) are 1) questionnaire does not make extravagant claims upon the respondent; 2) it does not have any hidden purpose; and 3) the questionnaire demands information that respondents presumptively have. Researchers may design their own questionnaire or they may use any standard instruments designed by

scholars and adopted by many. Based on these advantages and assumptions, this research had applied questionnaire to gather data.

Cjaza (1998) had posed three questions to researchers should they be interested to use questionnaires as their research instrument. The first question was do the respondents understand the words or terms used. In order for respondents to understand the words or term, the instruments had been translated into Bahasa Melayu. The second question by Cjaza (1998) was, is the question of the researchers understood in the same way by all respondents. In addressing this point, a pre-test of the questionnaires was performed to ten teachers in order to see whether they understood all the items in the questionnaires. The findings from the pre-test showed several items were misunderstood by the respondents. Based on this finding, the items were rephrased for a better understanding. The last question was, does the question interest the respondents to answer them? Salkind (2003) reminds researchers to make sure that the items and the questionnaire are presented in an attractive, professional and easy-to-understand format in the order of easy to difficult.

Guided by these questions and reminders regarding questionnaire, the instrument for this research was designed to consist four parts as in table 3.3.

Table 3.3

Research Instrument

Part	List of items	Total
Demographic	1 to 4	4
Teacher Leadership	TL1 to TL47	47
Professional Development	PD1 to PD38	38
Teacher Performance	TP1 to TP22	22
	TOTAL	111

The demographic information of the respondents required information on gender, qualification and class of degree (CGPA) of respondents. For Teacher Leadership variable, the Teacher Leadership Self-Assessment was used to measure the level of teacher leadership (Katzenmeyer & Moller, 2009) consisting of 47 items. The instrument to measure Professional Development variable was The Organisation for Economic Co-operation and Development (OECD) Teaching and Learning International Survey (TALIS, 2013) where the Teacher Professional Development section was adopted to measure the professional development which consisted of 38 items. The Framework for Teaching Evaluation Instrument 2013 Edition (Danielson, 2013) was used to measure the teacher performance variable having 22 items.

The Likert Scales (Likert, 1932) was the choice of assessment scale for teacher leadership, professional development and teacher performance instruments instead of Thurstone Scales due to the fact that the construction of Likert scale was less time-consuming in contrast to the complex Thurstone scale (Salkind, 2003). Based on the original characteristics of Likert's (1932) article:

1) The scale contains 5 items.

2) Response levels are positioned horizontally.
3) Response levels are fixed with consecutive integers (i.e. 1, 2, 3, 4, 5).
4) Response levels are fixed with verbal labels which signify more-or-less uniformly-spaced gradations (i.e. strongly agree, agree, neutral, disagree, and strongly disagree).
5) Verbal labels are associated in pairs (i.e. 5 – strongly agree, 4 – agree, 3 – neutral, 2 – disagree, 1 – strongly disagree) and symmetrical about a neutral middle.
6) In Likert's usage, the scale always evaluates attitude in terms of level of agreement/disagreement to the aimed statement.

Although there are several biases associated with Likert scales such as central tendency bias and acquiescence bias (Rinker, 2014), researcher chose to have a 5 point scale having point 3 as the neutral response instead of an even point scale. Nonetheless, researcher had included some reverse polarity of the items in order to avoid acquiescence bias. Thus, favourable items were rated 1 through 5, with 5 being strongly agree and unfavourable items were reversed in their scoring so much so that 1 designated strongly agree.

3.5.1 Demography

Demographic details required from the respondents were gender, qualification and CGPA. This study intended to identify whether there was a difference in the level of teacher leadership, professional development and teacher performance between male and female generation Y teachers in MRSM.

Qualification (between local graduates and graduates from university abroad) was also analysed to see whether this condition made a difference in generation Y teachers in terms of teacher leadership, professional development and teacher performance. Did the education background play a significant role in differentiating the level of teacher leadership, teacher performance and professional development among the generation Y teachers of MRSM?

Another perspective that was being analysed for demographic aspect was class of degree or the CGPA for their qualification between 3.0 and below and 3.0 and above. CGPA is the acronym for Cumulative Grade Point Average which refers to the grading system in education. In most countries around the globe including Malaysia, a grade point average system is applied as a standardized measurement of differing levels of achievement in a course. This system is applied at university level or even high school level such as high schools in the United States of America and Maktab Rendah Sains MARA in Malaysia. In the system, a cumulative grade point average (CGPA) is produced by averaging a student's total earned points with the possible of points giving the student a letter grade. The letter grade is then converted to a 4.0 scale as in table 3.4. Based on the table, CGPA 3.0 and above is considered good while CGPA below 3.0 is categorized as satisfactory. Thus, this study was taking into consideration CGPA of respondents in order to see whether there was a difference in teacher leadership, teacher performance and professional development of teachers with good or excellent qualifications in contrast to teachers with only satisfactory qualification.

Table 3.4

CGPA grading system

Grade	Grade Point	Level
A+	4.0	Excellent
A	4.0	Excellent
A-	3.67	Good
B+	3.33	Good
B	3.00	Good
B-	2.67	Satisfactory
C+	2.33	Satisfactory
C	2.00	Fail
C-	1.67	Fail
D+	1.33	Fail
D	1.00	Fail
F	0.00	Fail

Source: Academic Affairs Department, UUM

3.5.2 Teacher Leadership

The instrument used to measure teacher leadership was the Teacher Leadership Self-Assessment by Katzenmeyer and Moller (2009). This instrument was widely used by researchers to observe the level of teacher leadership among the teachers (Davignon, 2016; Cheng & Szeto, 2016; Fon, 2016). This questionnaire had been the choice of instrument due to the fact that it was simple, it had a good reliability and validity value and the questions were easily understood bringing about worldwide usage. Other studies related to teacher leadership utilizing this instrument were implemented in Philippine, Hong Kong, South Africa and The United States (Villier

& Pretorius, 2012; Cheng & Szeto, 2016; Fon, 2016; Oracion, 2014). Adhering to the basic ethics in research, permission to use the teacher leadership assessment items was requested and granted by Marilyn Katzenmeyer with appropriate copyright mentioned in this study. Although this questionnaire had been widely used, a pilot study was run to test for its validity and reliability as well as its suitability to be used in Malaysian environment.

Teacher Leadership Self-Assessment consisted of seven domains namely 1) self-awareness which referred to the teacher having a clear picture of self in terms of behaviours, strengths, philosophy and values; 2) leading change which referred to teacher applying effective strategies to facilitate positive improvement; 3) communication when the teacher showed effective listening, oral communication, presentation skills and expression in written communication; 4) diversity which meant teacher demonstrated respect for and responds to differences in perspectives ; 5) instructional proficiency and leadership referring to teacher possessing and using professional knowledge and skills in providing the most effective learning opportunities for students and adults; 6) continuous improvement when teacher demonstrated commitment to reaching higher standards and readiness to take action to improve; and 7) self-organization referring to teacher established course of action and implements plans to accomplish results.

The level of teacher leadership was being described by the items that represented the domains mentioned above. There were 47 items of teacher leadership which fell under seven domains. Each item had five choices of answer describing the degree of agreement in the form of five points Likert Scale. The scales ranged from 1 (strongly

disagree) to 5 (strongly agree). These items were used to measure the level of teacher leadership as stated in table 3.5.

Table 3.5

List of items for Teacher Leadership

Domains	List of items	Total
Self-awareness	1, 2, 3, 4, 5, 6, 7, 8, 9	9
Leading Change	10, 11, 12, 13, 14, 15	6
Communication	16, 17, 18, 19, 20, 21	6
Diversity	22, 23, 24, 24, 26, 27	6
Instructional Proficiency & Leadership	28, 29, 30, 31, 32, 33, 34, 35	8
Continuous Improvement	36, 37, 38, 39, 40, 41	6
Self-Organization	42, 43, 44, 45, 46, 47	6
	TOTAL	47

3.5.3 Professional Development

The Organisation for Economic Co-operation and Development (OECD) had designed a survey to get information for education analysis and to develop policies related to education advancement. A request for permission to use the Teaching and Learning International Survey (TALIS) 2013 had been issued and permission was granted by the Directorate of Education and Skills of OECD. Thus, the instrument to measure the teachers' professional development level was adopted from the TALIS 2013.

The Teacher Professional Development section of TALIS 2013 had been adapted for the purpose of this study resulting in three domains of professional development namely 1) induction programme which referred to any activity that supports the induction session before going into the teaching profession; 2) mentoring as a domain which questioned whether teachers were involved as mentor or mentee; and 3) continuous professional development which referred to teachers participation in professional development activities involving an increase in knowledge, perceived impact, perceived needs, perceived barriers and support provided. The induction programme domain consisted of 3 items and mentoring had 2 items. The continuous professional development was represented by 33 items which were divided into 5 sub-domains namely 1) participation in professional development activities; 2) the type, format and content of the activities; 3) support provided; 4) perceived impact; and 5) perceived barriers. The level of involvement in professional development for all the 38 items was measured using five options of response based on Likert Scale 1 to 5, 1 being 'strongly disagree' and 5 being 'strongly agree'.

The OECD Teaching and Learning International Survey (TALIS) 2013 had been used by many countries in the world to get feedback on the professional development activities experienced by the teachers. Countries like Australia, England, Italy, Korea, Malaysia and many more had participated and used the instrument to review what had happened in the countries regarding teacher development as well as school development (TALIS, 2013). A pilot study was also performed to satisfy the requirements of validity and reliability in Malaysia setting. These 38 items were used to measure the level of teachers' involvement in professional development as in table 3.6.

Table 3.6

List of items for Professional Development

Domains	Sub-domains	List of items	Total
Induction programme	-	1, 2, 3	3
Mentoring	-	4, 5	2
Continuous Professional Development	Participation in PD activities	6, 7, 8, 9, 10	5
	Type, format & Content of activities	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23	13
	Support provided	24, 25, 26, 27	4
	Perceived impact	28, 29, 30	3
	Perceived barriers	31, 32, 33, 34, 35, 36, 37, 38	8
		TOTAL	38

3.5.4 Teacher Performance

The Framework for Teaching (Danielson, 2013) was the instrument adapted to measure teacher performance. Developed by Charlotte Danielson in 1996, the framework had advanced into a valid and reliable measuring instrument whereby it helped teachers to focus on improvement efforts besides using it as guidance or a road map for professional development. The instrument was cited with permission of

the Danielson Group LCC. Again, a pilot study was conducted to secure its validity and reliability in Malaysia background.

The instrument consisted of 22 items being distributed into four domains namely 1) planning and preparation which referred to the outside classroom activities reflecting teachers effectively prepare and plan for the teaching and learning session; 2) classroom environment which referred to the effectiveness of classroom organization by teachers resulting in maximized classroom instructions and procedures for a safe environment; 3) instruction which referred to the explicit explanations and feedbacks making students interested to engage in the teaching and learning process; and 4) professional responsibilities which referred to the teachers high ethical standards and commitment in improving teaching as well as collaborating with colleagues. Respondents' feedback were based on the 1 to 5 scales of the Likert Scale, 1 being 'strongly disagree' and 5 being 'strongly agree'. The items are listed as in table 3.7.

Table 3.7

List of items for Teacher Performance

Domains	**List of items**	**Total**
Planning and preparation	1, 2, 3, 4, 5, 6	6
Classroom environment	7, 8, 9, 10, 11	5
Instruction	12, 13, 14, 15, 16, 17	6
Professional responsibilities	18, 19, 20, 21, 22	5
	TOTAL	22

3.6 Instrument translation

Since the instrument selected to be used in this research was in English Language, it had to be translated into Malay Language due to the fact that the samples of research use Malay Language as their first language. Instrument translation is an important aspect of a study. Beaton, Bombardier, Guillemin and Ferraz (2002) suggest six stages of the translation proses in order to ensure the quality of translation linguistically and semantically and to reduce the difference across cultures. The stages are translation, synthesis, back translation, expert committee review, pretesting and submission and appraisal.

For this study, the next step after the selection of instruments to test for each variable was to translate the items from English Language to Malay Language. Translation of the items was done by two certified translators (Certification from Institut Terjemahan dan Buku Malaysia Berhad). This was performed in order for the respondents to be able to answer the questions without any biased of misunderstanding the meaning of the questions. The two translated versions of the instrument then were given to an expert in Malay Language to proofread for any grammatical errors which could lead to a misinterpretation of meaning and then decided on the best version based on the comparison between the two translated scripts. Then, an English teacher did the back translation process of the new questionnaire into English Language and compared it to the original document to check for the validity of the translation.

3.7 Validity Analysis

Validity means the instrument is built to measure what it is supposed to measure (Othman Talib, 2013). Words like truthfulness, authenticity and accuracy are the equivalent to validity which means the questionnaire measures the variables that they are supposed to measure (Salkind, 2003). Due to the fact that the instruments were tested for validity and reliability in the western countries and across the world, pilot study had been performed to reduce the cross cultural impact they may have. Salkind (2003) explained that validity of an instrument does not refer to the questionnaire being valid but to the result of the questionnaire being answered by respondents. It is not a question of whether the questionnaire is valid or not valid, all or none. Validity occurs in degrees from low validity to high validity.

Three types of validity needs to be considered as the area of concern when analysing an instrument validity namely content validity, criterion validity and construct validity. Content validity is the magnitude to which a questionnaire represents the universe of items from which it is derived (Salkind, 2003). Content validity is reviewed by allowing the constructed items to be revised by experts in the fields related to the content in the questionnaire (Othman Talib, 2013). In this study, the content validity had been checked by experts in the field so as to restore the original meaning of the instrument during the translation process. The pre-test of the translated version helped to further reduce confusion in meaning as far as content was concerned.

The researcher had taken the initiative to appoint experts in the field of education, especially in the issue related to teacher leadership and teacher performance and in

the field of statistics to review and validate this instrument. The translated instrument was validated by three (3) personnels. Then the questionnaire was presented to 130 respondents for the purpose of performing the pilot study.

3.8 Pilot Study

The reason for having a pilot study was to evaluate the validity and reliability of the designed instrument when necessary modification was made which would ensure the smooth running of the questionnaire administration. According to Connelly (2008), a wide range of literature proposed that a pilot study sample should be 10% of the sample forecasted for the larger parent study. Later, Treece and Treece (1982) in their research, also agreed with Connelly (2008) suggesting 10% of the project sample size would be the best determined amount of respondents for a pilot study. However, Hertzog (2008) forewarned that this was not a simple or straight forward issue to determine because descriptive studies were influenced by many factors.

Sandvik, Erikssen, Mowinckel and Rodland (1996) recommended a method for determining the size of internal pilot studies, which focused on ensuring that the pilot study sample size was as large as possible, but not larger than 'the optimal size' of the planned study. Nonetheless, Beavers, Lounsbury, Richards, Huck, Skolits and Esquivel (2013) suggested a sample size as low as 100 for initial structure exploration should a researcher need to perform exploratory factor analysis. Taking these into consideration, the respondents for the pilot study of this research consisted of 130 teachers from MRSM Pasir Tumboh and MRSM Kota Putra. Data screening was performed in order to ensure that data obtained from the pilot study respondents were clean and ready to be used.

3.8.1 Data Screening

Data screening is an important process that should happen before conducting any farther statistical analyses. This is because data needed to be useable, reliable and valid to be used. Data screening was done using the Statistical Package for the Social Sciences (SPSS). First and foremost, data screening tested for any missing data. According to Lynch (2006), missing data would reduce the data points which in the end would intrude on the analysis process such as running the EFA or CFA. Lynch (2006) further explained that missing data would represent biased issues thus suggesting that if there were missing values, researchers were to simply discard the data or impute the missing values (this should be done for continuous or interval data only). Secondly, data screening was performed to identify any outliers in the data. An outlier was an observation which was distantly detached from the rest of the observations (Maddala, 1992).

Data screening also assessed the normality of data. Normality was determined by several different methods such as shape, skewness and kurtosis. For the purpose of this study, researcher had delved into skewness. According to Zainuddin Awang (2012), the general statistical measure of skewness ranged from -3.0 and 3.0 while Ghasemi and Zahediasl (2012) believed that for small samples (<200), values greater or lesser than 1.96 were acceptable enough to establish the normality of the data. However, it was noted that the measure of skewness which was close to -3.0 or 3.0 would be considered as extremely skewed to the left or right (Zainudin Awang, 2012). The measures of skewness for all the items in the pilot study fell between -1.20 to 0.78. For the purpose of this study, the range of skewness of -1.5 to 1.5 was

decided as acceptable measure. Thus, the data collected from 130 respondents for the pilot study were considered normally distributed.

3.8.2 Exploratory Factor Analysis (EFA)

Since the instrument for this research was adapted from western countries and translated from English Language into Malay Language, there may be the possibility of cross cultural misunderstanding or misinterpretation. Thus Exploratory factor analysis (EFA) was performed. EFA was one of the statistical methods used by researchers to discover the fundamentally latent structure of a comparatively large set of items. It was a technique within factor analysis with an overall goal of recognizing the underlying relationship between assessed items (Norris & Lecavalier, 2009).

Each instrument for every variable originally had its own domain. EFA had been performed to ensure that the items were regrouped into a set of latent domains of each instrument based on Malaysian respondents. Fabrigar, Wegener, MacCallum and Strahan (1999) reminded researchers to carefully consider the amount of items to be included in EFA due to the fact that these procedures were more accurate when each domain was characterized by multiple items in the analysis. What was considered when running EFA was the common factor model. In this model, items were grouped in a domain of common factors. Common factors influenced more than one item and the reading of factor loading was the measure of the influence of a common domain on an item. Whatever the items had in common in each domain would signify the meaning of the domain (Worthington & Whittaker, 2006).

In this research, exploratory factor analysis was performed using SPSS. The total number of items for the three selected variables was 107. This was considered as a lot. Zainudin Awang (2012) had suggested reducing them into manageable number before further analysis was carried out. Thus, exploratory factor analysis procedure was carried out with the purpose of regrouping the items into groups which possessed similar characteristics.

Before the reduction process was executed, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of Sphericity were performed to measure how suited the data was for factor analysis (Beavers et. al., 2013). Kaiser (1974) set the values of KMO exceeding 0.6 as recommended value for factor analysis as in table 3.8.

Table 3.8

Interpretation Guidelines for the Kaiser-Meyer-Olkin Test

KMO Value	Degree of Common Variance
0.90 to 1.00	Marvelous
0.80 to 0.89	Meritorious
0.70 to 0.79	Middling
0.60 to 0.69	Mediocre
0.50 to 0.59	Miserable
0.00 to 0.49	Don't Factor

Source: Beavers et. al. (2013)

Bartlett (1954) suggested the significant value of Bartlett's test which was close to 0.0 (significant value not exceeding 0.05, $p<0.05$) as an indicator that the data was adequate to proceed with factor analysis (Zainudin Awang, 2012).

In this research, exploratory factor analysis was performed based on suggestions by Costello and Osborne (2005) that 1) principal components analysis with varimax rotation was used as the method for data analysis and 2) Kaiser criterion was used whereby all factors with eigenvalues greater than one were to be retained. Exploratory factor analysis had been performed on all variables involved in this research namely teacher leadership (47 items), professional development (38 items) and teacher performance (22 items).

Table 3.9, Table 3.10 and Table 3.11 are the KMO and Bartlett's test for Teacher leadership instrument, Professional Development instrument and Teacher Performance instrument respectively.

Table 3.9

KMO and Bartlett's Test for Teacher Leadership

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.81**
Bartlett's Test of Sphericity	Approx. Chi-Square	3426.585
	Df	1081
	Sig.	.000

Table 3.10

KMO and Bartlett's Test for Professional Developmet

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**.84**
Bartlett's Test of Sphericity	Approx. Chi-Square	3190.767
	Df	703
	Sig.	.000

Table 3.11

KMO and Bartlett's Test for Teacher Performance

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.90**
Bartlett's Test of Sphericity	Approx. Chi-Square	1853.956
	Df	231
	Sig.	.000

The KMO values of 0.81 for teacher leadership, 0.84 for professional development and 0.90 for teacher performance were meritorious according to Kaiser (1974). The significant value of Bartlett's test close to 0.0 for all the three instruments indicated the data at hand was appropriate to proceed with the reduction process.

Costello and Osborne (2005) had termed the "cleanest" factor structure would be items with factor loading above 0.3 and no component should be created with less than three items. This study selected the items with factor loading greater than 0.5 and domains with three and more items.

Table 3.12 shows the factor loading for items of teacher leadership under four domains namely domain one, domain two, domain three and domain four. Items TL1, TL2, TL7 & TL9 fell under domain one. Originally, domain one consisted of nine items to evaluate welf-awareness of teacher leadership. After EFA was performed, only four items showed factor loadings of above 0.5 and all these items were originally from the domain of self-awareness. This meant that four items would be used in real study to evaluate self-awareness.

Items TL10, TL11, TL12, TL14, TL15, TL17, TL18 and TL19 fell under domain two which were listed as havig factor loading of more than 0.5. These items were originally from second and third domains of Teacher Leadership Self-Assessment (Katzenmeyer & Moller, 2009) which were leading change (TL10, TL11, TL12, TL14 and TL15) and communication (TL17, TL18 and TL19). This new domain was labelled as communication and change.

Items TL13, TL23, TL25, TL26, TL28, TL30, TL33, TL34, TL35 and TL36 fell under domain three. These ten items were from four different domains of the original instrument namely leading change (TL13), diversity (TL23, TL25 and TL26), instructional proficiency and leadership (TL28, TL30, TL 33, TL34 and TL35) and continuous improvement (TL36). This new domain was labelled as diversity and instructional proficiency.

Items TL20, TL31, TL37, TL38, TL39, TL40, TL41, TL42, TL43, TL44, TL45 and TL46 were in the last domain, domain four. These twelve items were previously from four different domains namely communication (TL20), instructional proficiency and leadership (TL31), continuous improvement (TL37, TL38, TL39, TL40 and TL41) and the last domain, self-organization (TL42, TL43, TL44, TL45 and TL46). Since this new domain was an amalgamation of items from four different domains before EFA, this domain was labelled as organized and continuous improvement.

Meanwhile items TL3, TL4, TL5, TL6, TL8, TL16, TL21, TL22, TL24, TL27, TL29, TL32 and TL47 were excluded from the analysis since its factor loading was lower than 0.5.

Table 3.12

The Rotated Component Matrix for Teacher Leadership

Item		DOMAIN			
		1	2	3	4
TL1	I reflect upon my excellent work performance	0.69			
TL2	I always think of how to improve myself as a teacher	0.73			
TL7	I act in ways that are congruent with my values and philosophy when dealing with colleagues	0.50			
TL9	At work, I behave in ways that are ethical and meet expectations for a high level of professional performance	0.52			
TL10	I invite colleagues to work toward accomplishment of the vision and mission of the school		0.59		
TL11	I lead others in accomplishing tasks		0.53		
TL12	I involve colleagues when planning for change		0.60		
TL14	I work toward improving the culture of the school		0.56		
TL15	I am willing to spend time and effort building a team to improve my school		0.67		
TL17	I seek perspectives of others with accuracy		0.67		

TL18	I reflect others' thoughts and feelings with accuracy	0.64		
TL19	When facilitating small groups I keep the group members on-task and on-time	0.54		
TL13	I understand the importance of school cuture to improving student outcomes		0.58	
TL23	I respect values and beliefs that may be different from mine		0.65	
TL25	I work efficiently with non-educators and persons with special interest		0.58	
TL26	I make special efforts to understand the beliefs and values of others		0.59	
TL28	I promote positive environment in the classroom		0.61	
TL30	I persist to assure the success of all students		0.61	
TL33	I am open to sharing with colleagues		0.57	
TL34	I act with integrity when working with students or adults		0.64	
TL35	I act with fairness when working with students or adults		0.65	
TL36	I seek out all pertinent information from any sources before making a decision or taking action		0.54	
TL20	When leading meetings, I am able to get almost everyone to participate			0.55
TL31	I have a reputation for being competent in the classroom			0.66
TL37	I set goals and monitor progress towards meeting them			0.69
TL38	I analyze and use assessment information when planning			0.67

TL39	I participate in professional development and learning				0.78
TL40	I am proactive in identifying problems and working to solve them				0.75
TL41	I work side-by-side with colleagues, parents and / or others to make improvements in the school or district				0.66
TL42	I plan and schedule thoroughly so that i can accomplish tasks and goals				0.67
TL43	I exhibit self-confidence when under stress or in difficult situations				0.52
TL44	I work effectively as a team member				0.68
TL45	I show initiative and exhibit the energy needed to follow through to get desired results				0.71
TL46	I prioritize so that I can assure there is time for important tasks				0.66
	Eigenvalue	13.77	3.35	2.78	2.41
	Total variance explained	16.51	29.84	39.69	47.49

As far as content validity was concerned, this instrument for teacher leadership (after exploratory factor analysis) had maintained the seven original domains of Teacher Leadership Self-assessment by Katzenmeyer and Moller (2009) in four different domains. Thus, teacher leadership instrument for the real study is testing teacher leadership in the domains of self-awareness, leading change, communication, diversity, instructional proficiency and leadership, continuous improvement and self-organization.

Table 3.13 is the factor loading for items of professional development. There were thirty-eight items and ten items were reduced leaving only twenty-eight (28) items which fell into three (3) domains. Items PD1, PD7, PD8, PD9 and PD10 fell under domain one (1) and they were originally from the domains of induction programme (PD1) and participation in professional development activities (PD7, PD8, PD9 and PD10). Items PD12, PD13, PD14, PD15, PD16, PD17, PD18, PD19, PD20, PD21, PD22, PD23, PD25, PD26, PD29, PD30 and PD31 fell under domain two (2) whereby they were from four different domains namely type, format and content of activities (PD12, PD13, PD14, PD15, PD16, PD17, PD18, PD19, PD20, PD21, PD22, PD23), support provided (PD25 and PD26), perceived impact (PD29 and PD30) and perceived barriers (PD31). Items PD32, PD33, PD34, PD35, PD36 and PD38 fell under domain three (3) where all of these items were originally from the perceived barriers domain.

Table 3.13

The Rotated Component Matrix for Professional Development

Item		**DOMAINS**		
		1	**2**	**3**
PD1	I took part in an induction programme	0.64		
PD7	I participate in education conferences or seminars (where teachers present their research results and discuss educational issues)	0.71		
PD8	I participate in observation visits to other schools	0.57		
PD9	During the last 12 months, I participate in qualification programme	0.57		
PD10	During the last 12 months, I participate in a network of teachers formed specifically for the	0.64		

	professional development of teachers	
PD12	During the last 12 months, I participate in mentoring and coaching as part of a formal school arrangement	0.61
PD13	Professional development activities that I participated in during the last 12 months cover knowledge and understanding of my subject field	0.68
PD14	Professional development activities that I participated in during the last 12 months cover pedagogical competencies in teaching my subject field	0.75
PD15	Professional development activities that I participated in during the last 12 months cover knowledge of the curriculum	0.66
PD16	Professional development activities that I participated in during the last 12 months cover student evaluation and assessment practices	0.77
PD17	Professional development activities that I participated in during the last 12 months cover ICT (information and communication technology) skills for teaching	0.79
PD18	Professional development activities that I participated in during the last 12 months cover student behaviour and classroom management	0.81
PD19	Professional development activities that I participated in during the last 12 months cover school management and administration	0.64
PD20	Professional development activities that I participated in during the last 12 months cover approaches to individualised learning	0.84
PD21	Professional development activities that I participated in during the last 12 months cover	0.81

	teaching cross-curricular skills (e.g. problem solving, learning-to-learn)		
PD22	Professional development activities that I participated in during the last 12 months cover new technologies in the workplace	0.71	
PD23	Professional development activities that I participated in during the last 12 months cover student career guidance	0.71	
PD25	For the professional development in which I participated in the last 12 months, I received scheduled time for activities that took place during regular working hours at this school	0.53	
PD26	For the professional development in which I participated in the last 12 months, I received a salary supplement for activiies outside working hours	0.56	
PD29	Professional development activities I took part in during the last 12 months have included opportunities for active learning methods (not only listening to a lecturer	0.61	
PD30	Professional development activities I took part in during the last 12 months have included collaborative learning activities or research with other teachers	0.71	
PD31	Professional development activities I took part in during the last 12 months have included an extended time-period (several occasions spread out over several weeks or months)	0.67	
PD32	I do not have the pre-requisites (e.g. qualifications, experience, seniority)		0.71
PD33	Professional development is too expensive / unaffordable		0.73
PD34	There is a lack of employer support		0.71

PD35	Professional development conflicts with my work schedule			0.65
PD36	I do not have time for professional development because of family responsibilities			0.80
PD38	There are no incentives for participating in professional development activities			0.63
	Eigenvalue	12.85	3.95	2.16
	Total variance explained	26.6	39.14	49.89

Table 3.14 refers to factor loading for the variable of teacher performance. There were twenty-two (22) items being analysed and twenty-one (21) items showed the value of more than 0.5. They were grouped into three (3) domains. Items TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13 and TP16 fell under domain one (1) whereby originally they were from three (3) different domains namely planning and preparation (TP1, TP2, TP3, TP4, TP5 and TP6). Thus, domain one (1) was labelled as planning and preparation fro classroom environment. Items TP14, TP15, TP18 and TP19 fell under domain two (2) and they were from two (2) different domains namely instruction (TP14 and TP15) and professional responsibilities (TP18 and TP19). This new domain two (2) is termed as instruction. Items TP20, TP21 and TP22 fell under domain three (3) whereby originally they were grouped in domain professional responsibilities and so was termed as such.. Item 17 was excluded due to its value of less than 0.5.

Table 3.14

The Rotated Component Matrix for Teacher Performance

Item		DOMAINS		
		1	2	3
TP1	I demonstrate knowledge of content and pedagogy	0.61		
TP2	I demonstrate knowledge of students	0.72		
TP3	I set instructional outcomes	0.83		
TP4	I demonstrate knowledge of resources	0.70		
TP5	I design coherent instruction	0.76		
TP6	I design student assessment	0.74		
TP7	I create an environment of respect and rapport in my classroom	0.81		
TP8	I establish a culture for learning in my classroom	0.77		
TP9	I manage classroom procedures before, during and after class	0.72		
TP10	I manage my student behaviour in the classroom	0.75		
TP11	I organize the classroom physical space	0.62		
TP12	I communicate with students	0.76		
TP13	I use questioning and discussion techniques	0.66		
TP16	I demonstrate flexibility and responsiveness	0.65		
TP14	I engage students in learning		0.63	
TP15	I use assessment in instruction		0.65	
TP18	I maintain accurate records		0.65	
TP19	I communicate with families of my students		0.76	
TP20	I participate in professional community			0.85

TP21	I grow and develop professionally			0.79
TP22	I demonstrate professionalism in my work			0.66
	Eigenvalue	10.14	1.96	1.56
	Total variance explained	37.97	51.09	62.11

3.8.3 Reliability Analysis

The instrument then was tested for its reliability to ensure that it was valid and stable to be used in actual survey. Reliability is when the instrument measures the exact thing more than once and results in the same output (Salkind, 2003). There are several types of reliability which are used for different purposes. They are test-retest which is a measure of stability, parallel forms which is a measure of equivalence, inter-rater being a measure of agreement and internal consistency as a measure of how consistently each item measures the same underlying variable. For the purpose of this study, internal consistency was the type of reliability being considered and it was reflected by the Cronbach's alpha (Salkind, 2003). George (2003), Kline (2000) and DeVellis (2012) described a commonly accepted rule for describing internal consistency utilizing Cronbach's alpha is as in table 3.15.

Table 3.15

Cronbach's alpha and internal consistency

Cronbach's alpha	**Internal consistency**
$0.9 \leq \alpha$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Nunnally (1976) identified the cronbach alpha value of >0.6 to be having a high reliability value. Table 3.16 shows the values of reliability analysis for the variables teacher leadership, professional development and teacher performance. Computation of the reliability analysis was done according to domains of each variable. As for teacher leadership, the α value for domain one was 0.71, domain two was 0.84, domain three was 0.88 and domain four was 0.91. For the professional development variable, domain one had the value of 0.75, domain two was 0.95 and domain three was 0.83. Finally, for the teacher performance variable, 0.94 was the α value for domain one, 0.74 for domain two and 0.75 for domain three.

Table 3.16

Reliability Analysis of Instrument

VARIABLE	DOMAIN	CRONBACH ALPHA
Teacher Leadership	1	0.71
	2	0.84
	3	0.88
	4	0.91
Profesional Development	1	0.75
	2	0.95
	3	0.83
Teacher Performance	1	0.94
	2	0.74
	3	0.75

In conclusion, based on the validity and reliability tests performed, this instrument had been proven to have a high value of validity and reliability to be used in the real study. The instrument for the real study consisted of thirty-four items to measure teacher leadership in four domains which were termed as 1) self-awareness (four items), 2) communication and change (eight items), 3) diversity and instructional proficiency (ten items) and finally 4) organized and continuous improvement (twelve items). Twenty-eight items measured professional development which were in three domains namely 1) participation (five items), 2) content and support (seventeen items) and 3) barriers (six items). Twenty-one items were used to measure teacher performance in three domains which were labelled as 1) planning and preparation for classroom environment (fourteen items), 2) instruction (four items) and professional responsibilities (three items). The summary of the instrument was as in table 3.17.

Table 3.17

Instrument for Real Study

VARIABLE	DOMAIN	ITEMS
Teacher Leadership	Self-awareness	1, 2, 3, 4
	Communication and change	5, 6, 7, 8, 9, 10, 11, 12
	Diversity and instructional proficiency	13, 14, 15, 16, 17, 18, 19, 20, 21, 22
	Organized and continuous improvement	23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
Profesional Development	Participation	1, 2, 3, 4, 5
	Content and support	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
	Barriers	23, 24, 25, 26, 27, 28
Teacher Performance	Planning and preparation for classroom environment	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
	Instruction	15, 16, 17, 18
	Professional responsibilities	19, 20, 21

3.9 Procedure of Data Collection

Before the questionnaire was being distributed to all MRSM in Malaysia, permission to perform this research and to get data from the Director of MARA Secondary Education Division (Bahagian Pendidikan Menengah--BPM) had been obtained.

With the permission, the officer who was in charge of the service division of BPM was contacted to get the data on the teachers in all MRSM. Before sending the questionnaire to all MRSM, the principal for each MRSM was contacted to inform about the study and the respondents who would be involved in this study from his/her college.

Then the questionnaires were sent to all MRSM by courier service in order to ensure that the questionnaires arrived at the destination within the schedule set. Every package of questionnaires sent contained these items:

1. Letter of intent to the principal containing the guideline of who should be the respondents to participate in this study, how to answer the questionnaire and when to return the questionnaire (dateline).
2. Letter of permission (to get data from the MRSM teachers) from the Director of MARA Secondary Education Division.
3. The sets of questionnaire according to the number of teachers designated in each state (i.e. as set according to table 3.3).
4. Self-addressed and postage paid envelope to facilitate the return of the questionnaires.

In order to secure a higher rate of returned questionnaires, some of the initiatives that were taken were to make a phone call to each MRSM enquiring the status of sent questionnaires whether the MRSM had received the questionnaire or not. After a period of two weeks, phone calls were again made to each MRSM as a reminder for the questionnaires to be answered and sent back. Seventy-five to eighty-five percent of the questionnaires were returned by each MRSM (after three attempts to remind

the colleges to return the questionnaires). It was already considered a success while the rest of unreturned questionnaires were ignored.

3.10 Procedure of Data Analysis

Several steps were taken to analyse the data gathered from the respondents in order to obtain information with regard to teacher leadership, teacher performance and professional development.

3.10.1 Data Coding

Before data were being analysed, the researcher reviewed the data by detecting any mistakes that may occur and if there was any mistake identified, corrections were made. Researcher ensured the score was within the specified range. The frequency for each unit of collected data and review of score were obtained using Statistical Package for the Social Science (SPSS) version 21. Based on the data review, researcher had included any lost data and corrected any mistake found by revising all samples again.

Recoding process was performed due to the fact that there were a few negative items. Negative items were posed as a means of controlling and reviewing the issue being investigated and to ensure no deviant response in the respondent's feedback (Nunnally, 1978). Recoding was compulsory in order to obtain the same directional relationship with the underlying domains of interest. In this research, there were three negative items for professional development that needed to be reversed when coding was performed. The three items that had been recoded were items twenty-three, twenty-five and twenty-seven. The questionnaire consisting of four sections

(A, B, C and D) had been encoded to facilitate data analysis procedures. Table 3.18 shows the coding method used for section A (demographic).

Table 3.18

Coding Method for Demographic Section

DEMOGRAPHIC CRITERIA	GROUPS	CODE
Gender	Male	1
	Female	2
Qualification	Graduate (local university)	1
	Graduate (abroad university)	2
Class of degree (CGPA)	3.00 and above	1
	2.99 and below	2

Section B was the instrument for teacher leadership, section C was the instrument for professional development and section D was the instrument for teacher performance. All items utilized 5 point scale. Table 3.19 shows the coding method for all the three instruments.

Table 3.19

Coding Method for teacher leadership, professional development and teacher performance instruments

VALUE	SCALE	CODE
Strongly disagree	1	1
Disagree	2	2
Neither agree nor disagree	3	3
Agree	4	4
Strongly agree	5	5

Source: Vagias (2006)

3.10.2 Descriptive Statistical Analysis

Data related to the demographic of the respondents and data that were descriptive in nature such as the frequency distribution and percentage were produced using SPSS (Mohd Yusri Ibrahim, 2010). Mean and standard deviation were used to explain the level of teacher leadership, professional development and teacher performance. Mean was defined as the sum of the measurements divided by the total number of measurements, which in layman's terms, refers to an "average" (Ott & Longnecker, 2001). Mean plays an important role due to the fact that it can be considered as a point of equilibrium for a data set. Ott and Longnecker (2001) stated that a sample mean could be utilized to make deduction about the corresponding population. In order to get the least biased judgement possible, the standard deviation was taken into consideration. The standard deviation measured how condensed the data were around the mean; the more concentrated, the smaller the standard deviation (Mann, 2005). Table 3.20 is used to interpret the level of the three variables.

Table 3.20

Mean Classification

Mean Classification	Interpretation
1.00 – 1.80	Very low
1.81 – 2.60	Low
2.61 – 3.40	Average
3.41 – 4.20	High
4.21 – 5.00	Very high

Source: Alias Baba (1997)

3.10.3 Inferential Statistical Analysis

For the second part, SPSS was used to analyse the statistically inferential data to test the hypotheses of this study. *t*-test was used to observe the mean difference in variables based on the demographic information of the respondents (Mohd Yusri Ibrahim, 2010). Out of the basic three types of *t*-test, independent samples *t*-test was applied in contrast to one sample *t*-test or paired sample *t*-test. The existence of two means for each demographic information for examples the means for male and female under the demographic gender, the means for local or oversea graduate for qualification and the means for CGPA below 3.00 or above 3.00 for CGPA indicated that independent sample *t*-test could be performed in order to identify the difference in teacher leadership, teacher performance and professional development based on demographic information. It was conventional to determine the probability value of .05 or .01 level of significance (Salkind, 2003). For the purpose of this study, the p-value was assigned at .05 level of significance. Referring to the p-value of the *t*-test result, the null hypothesis was rejected when the p-value was significant (<.05).

Structural Equation Modeling (SEM) was applied using the software Analysis of Moments Structures (AMOS) version 21 to analyse the relationship among the variables in testing the hypotheses since it was said to be a more efficient method (Zainudin Awang, 2012). SEM was an amalgamation of models namely regression, path, confirmatory factor and structural equation models, used to characterize relationships among the perceived variables (Schumacker & Lomax, 2010). SEM was conducted to identify significant effect among the variables since multiple observed variables existed in this study. This model had become more reliable and valid in its observed scores from measurement instruments after 30 years of development (Schumacker & Lomax, 2010). According to Byrne (2016), the term "structural equation modeling" brought two significant facets of the procedure. The first one was the causal processes under study were characterized by a series of structural (which was regression) equations. The second facet was these structural relations could be shaped pictorially to facilitate a clearer conceptualization of any theory being studied.

SEM was considered relevant because it implied the latent factors existed in each variables by regressing these structures (Hox & Bechger, 1998). Zainudin Awang (2015) described SEM as a confirmatory method contributing a comprehensive means for validating the measurement model of latent constructs. Several steps were followed in performing this statistical analysis. Firstly was the model specification whereby the schematic diagram of the research model based on the theoretical and conceptual framework was specified. After specifying the schematic diagram, the structural model was drawn based on the specified diagram consisting all items for every domain of each variable.

In this research, the hypothesized model consisted of three second-order factors (unmeasured variables) namely teacher leadership (TL), professional development (PD) and teacher performance (TP). TL consisted of four first-order unmeasured variables (also termed as first-order factor) namely self-awareness (with four measured variables), communication and change (with eight measured variables), diversity and instructional proficiency (with ten measured variables) and finally organized and continuous improvement (with twelve measured variables). For the second-order factor TL, the number of parameters to be estimated are thirty first-order regression coefficients, four second-order regression coefficients, thirty-four measurement error variances and four residual error terms, making it a total of seventy-two.

Professional development (PD) as the next second-order unmeasured variable consisted of three first-order unmeasured variables namely participation (with five measured variables), content and support (with 17 measured variables) and barriers (with six measured variables). The number of parameters to be estimated for PD was fifty-nine bearing twenty-five first–order regression coefficients, three second-order regression coefficients, twenty-eight measurement error variances and three residual error terms.

Finally, the last second-order unmeasured variable was teacher performance (TP). TP consisted of three first-order unmeasured variables (also termed as first-order factor) namely planning and preparation for classroom environment (with fourteen measured variables), instruction (with four measured variables), professional responsibilities

(with three measured variables) As far as the number of parameters to be estimated for TP, there are eighteen first-order regression coefficients, three second-order regression coefficients, twenty-one measurement error variances and three residual error terms, making it a total of fourty.

Next, the model was validated with the help of presumably normally distributed observed data. This step was referred to as model estimation. In this step, confirmatory factor analysis (CFA) was performed. It has to be performed before modelling the inter-relationship in a structural model (SEM). The CFA has the ability to assess unidomainality, validity and reliability of the variables in the order of priority.

Unidomainality is said to be achieved when all measuring items have acceptable factor loading of 0.6 or higher since these are established items (Zainuddin Awang, 2015). Validity of this measurement model is observed from three (3) aspects namely convergent validity, construct validity and discriminant validity. Convergent validity is observed by computing the Average Variance Expected (AVE) for every variable which should achieve 0.5 and above. Thus, keeping any item with factor loading of <0.6 could cause the construct to fail convergent validity. Nonetheless, if AVE is less than 0.5 but the composite reliability is higher than 0.6, the convergent validity of the construct is still adequate (Fornell & Larcker, 1981).

Construct validity is achieved when the required level of the Fitness Indexes in terms of Absolute fit, Incremental fit and Parsimonious fit is achieved. In this research, Absolute fit was based on the index of Root Mean Square of Error Approximation

(RMSEA) whereby according to Browne and Cudeck (1993), the level of acceptance for absolute fit is <0.08. As for incremental fit, the Comparative Fit Index (CFI) is observed whereby according to Bentler (1990), the level of acceptance is >0.90. For Parsimonious fit, Chi Square/Degrees of Freedom index is observed which level of acceptance would be <3.0 (Marsh & Hocevar, 1985).

Discriminant validity indicates that the measurement model of each variable is clear from any redundant items. Using the Modification Indices (MI) values not exceeding 0.85, it is an indication that the independent variable and the mediator are redundant or having serious multicollinearity problem. Finally, reliability assessment was measured using the composite reliability (CR) indication whereby the CR exceeding 0.6 is the indicator of reliable variables.

The next step was executing the structural model. When the structural model was executed, the standardised regression weights were obtained and whether the fitness indexes were achieved or not were indicated. The interpretation of the results determined whether the hypotheses were accepted or rejected.

The next statistical analysis is also using Structural Equation Modeling (SEM) to analyse the influence of the domains of teacher leadership and professional development on teacher performance. The path coefficients will explain the possible influence of the first-order unmeasured variables on the second order unmeasured variables.

SEM using AMOS was also able to test the mediating effect in a more accurate manner (Zainudin Awang, 2015). A mediating variable describes the relation between the independent variable and the dependent variable. It can be a promising mechanism of an independent variable producing changes on a dependent variable. Thus, SEM using AMOS was applied in order to test for the mediating variable. A summary of the statistical analysis for this study is presented in table 3.21

Table 3.21

Research Questions and Statistical Analysis

No	Research Question	Statistical Analysis
1	What is the level of teacher leadership of generation Y teachers in MRSM?	Mean Descriptive
2	What is the level of professional development of generation Y teachers in MRSM?	Mean Descriptive
3	What is the level of teacher performance of generation Y teachers in MRSM?	Mean Descriptive
4	Is there any difference in teacher leadership, professional development and teacher performance based on the demographic (gender, qualification and CGPA) of the generation Y teachers in MRSM?	T-test
5	Is there any significant effect of teacher leadership on teacher performance among generation Y teachers in MRSM?	SEM

6	Is there any significant effect of teacher leadership on professional development among generation Y teachers in MRSM?	SEM
7	Is there any significant effect of professional development on teacher performance among generation Y teachers in MRSM?	SEM
8	What are the domains of teacher leadership and professional development that influence teacher performance of the generation Y teachers in MRSM?	SEM
9	Does professional development influence the relationship between teacher leadership and teacher performance as a mediator?	SEM

Based on the result of exploratory factor analysis, the hypothesis to be tested for research question, what are the domains of teacher leadership and professional development that influence teacher performance of generation Y MRSM teachers, had to be changed due to the reduction and regrouping of items into different, new domains. Thus the hypotheses to be tested for the domains of teacher leadership which influence teacher performance were as follows:

Ho13a: Teacher performance is not significantly influenced by self-awareness domain of teacher leadership of generation Y teachers in MRSM

Ho13b: Teacher performance is not significantly influenced by communication and change domain of teacher leadership of generation Y teachers in MRSM

Ho13c: Teacher performance is not significantly influenced by diversity and instructional proficiency domain of teacher leadership of generation Y teachers in MRSM

Ho13d: Teacher performance is not significantly influenced by organized and continuous improvement domain of teacher leadership of generation Y teachers in MRSM

The hypotheses for testing the domains of professional development in influencing teacher performance were as follows:

Ho14a: Teacher performance is not significantly influenced by participation domain of professional development of generation Y teachers in MRSM

Ho14b: Teacher performance is not significantly influenced by content and support domain of professional development of generation Y teachers in MRSM

Ho14c: Teacher performance is not significantly influenced by barriers domain of professional development of generation Y teachers in MRSM

3.11 Summary

This chapter discussed the research design applied in this study. Population and sampling were also explained. Instrumentation had been dealt upon when this chapter deliberated on what instruments were used with permission and how the process of translation was being carried out. Pilot study was being performed for the instrument in order to prove its validity and reliability. The procedures for data collection and data analysis were also briefly explained. Generally, a detailed research methodology had indirectly facilitated the smooth running of the research process.

CHAPTER FOUR
RESEARCH FINDINGS

4.1 Introduction

This chapter reported on the findings of the research conducted in line with the main objective which was to clarify the influence of professional development towards generation Y teacher leadership and teacher performance in MRSM. The results of the research covered two parts. The first was on data normality test for all the items of the instrument. Then reliability test was reported for each domain of the three variables and finally this part illustrated on the descriptive statistics analysis such as frequency distributions and its percentages.

The second part of this chapter accounted for the results of the inferential statistical data analysis with the aim of testing the hypotheses that had been built. The statistical analyses used in this research were Independent *t*-Test to identify the differences in all the variables based on the demographic information, Structural Equation Modelling (SEM) to analyse the relationship between the variables as well as determine whether one of the variables acted as a mediator or not and Regression analysis to look into the influence each domain of teacher leadership and professional development had on teacher performance. Every hypothesis for this study had been tested at the significant level $p<0.05$.

4.2 Data Normality Test

The data collected for the real study must be tested for its normal distribution so as to assure that the sample data had been drawn from a normally distributed population.

A normal data would secure accurate statistical testing (Normadiah Mohd Razali & Wah, Yap Bee, 2011). There are several tests for normality such as the graphical tests consisting of histogram, box-plot and Q-Q plot, analysis of skewness and kurtosis, Chi-Square test and Kolmogorov-Smirnov test. Nonetheless, for the purpose of this study, analysis of skewness and kurtosis was used to screen the data for normality. Since the samples were considered as large samples, Zainuddin Awang (2012) had established that the value of skewness ranging from -3.0 to 3.0 could be considered as acceptable enough to establish the normality of data.

The finding of this research showed the measure of skewness based on the data collected ranged from -1.289 to 1.089. This proved that the samples had been drawn from a normally distributed population of generation Y in all MRSM throughout Malaysia. With the results obtained, other statistical analyses were applied.

4.3 Reliability Testing of Instrument

The reliability of items used to measure the domains of teacher leadership, professional development and teacher performance was analysed using the coefficient value of Cronbach Alpha (α) based on the number of real samples (N = 350). For a study involving a small number of sample which will bring about a small difference between samples, Mohd Yusri Ibrahim (2010) advises on the application of a bigger coefficient value which is r>0.85. Nonetheless, for a bigger sample of study, the coefficient value could go down to r>0.60. McMillan and Schumacher (2006) believed that coefficient value in between 0.70 to 0.80 would be reliable enough to conclude that the instrument has a high reliability value. Table 4.1 shows the values of reliability analysis for the variables of this study. The computation of

the reliability analysis was done according to domains of each variable. For teacher leadership, α value for self-awareness domain was 0.77, communication and change domain was 0.86, diversity and instructional proficiency was 0.89 and finally, organised and continuous improvement domain was 0.93. As for professional development, three domains namely participation (domain one), content and support (domain two) and barriers (domain three) had α value of 0.78, 0.93 and 0.78 each respectively while for teacher performance variable, the α value for planning and preparation for classroom domain was 0.95, instruction domain was 0.68 and professional responsibilities domain was 0.77.

The findings from table 4.1 revealed that all 83 items used to measure the three variables had the value of Cronbach Alpha in between 0.68 to 0.93. This confirmed the reliability value of the instrument was high (Nunnally, 1976).

Table 4.1

Reliability Analysis of Instrument

Variable	**Component**	**Number of items**	**Cronbach Alpha**
Teacher Leadership	Self-awareness	4	0.77
	Communication & change	8	0.86
	Diversity & Instructional Proficiency	10	0.89
	Organized and continuous Improvement	12	0.93

Table 4.1 (Cont)

Profesional Development	Participation	5	0.78
	Content & Support	17	0.93
	Barriers	6	0.78
Teacher Performance	Planning & Preparation for Classroom Environment	14	0.95
	Instruction	4	0.68
	Professional responsibilities	3	0.77

4.4 Descriptive Statistical Analysis

The descriptive statistical analysis would be presented in two aspects namely the descriptive data of the respondents and the descriptive findings of the variables.

4.4.1 Descriptive Data of Respondents

There were 350 respondents who had been selected from the samples. The respondents were from MRSM all over Malaysia who were equally distributed based on variety of demographic information as presented in table 4.2.

Based on table 4.2, in terms of gender, the female teachers outnumbered the male teachers. There were 229 female teachers (65.4%) while there were only 121 male teachers (34.6%) as respondents. Looking at the qualification aspect, there was 14.6% teachers (51) who graduated from university abroad while 85.4% (299 teachers) were graduated from local universities. As for class of degree, which referred to the cumulative grade point average (CGPA), 83.1% of the teachers (291)

were in the group of CGPA 3.00 and above while 16.9% of them (59) achieved CGPA of below 3.00.

Although the data showed unequal sample size for all the demographic aspects, these sample sizes were representative of the real population of generation Y teachers in MRSM based on gender, qualification and class of degree (CGPA) (Bahagian Pendidikan Menengah, 2018). An assumption that the means of these unequal sample sizes followed a normal distribution was met using the analysis of skewness and kurtosis. Another assumption that the two samples compared had the same variance was also met using Bartlett's test.

Table 4.2

Distribution of Demographic Features

Demographic		Frequency	Percentage
Gender	Male	121	34.6
	Female	229	65.4
Qualification	Local University	299	85.4
	Abroad University	51	14.6
CGPA	3.50 – 4.00	84	24.0
	3.00 – 3.49	207	59.1
	2.50 – 2.99	54	15.4
	Below 2.49	5	1.4

CGPA Group	Above 3.00	291	83.1
	Below 3.00	59	16.9

4.4.2 Descriptive Findings of Variables

This section reported on the practice of teacher leadership, professional development and teacher performance among generation Y teachers in MRSM. The descriptive interpretation was reported in the form of mean score and standard deviation of each domain for the variables of teacher leadership, teacher performance and professional development.

4.4.2.1 Descriptive Findings for Teacher Leadership

Research question: What is the level of teacher leadership of Generation Y teachers in MRSM?

The descriptive finding for the level of teacher leadership is as stated in table 4.3. Based on the result, the domain of teacher leadership with the highest mean score was diversity and instructional proficiency (mean = 4.31) in comparison to the communication and change domain (mean = 3.99). The self-awareness domain had a mean score of 4.18 while the organized and continuous improvement domain had a mean score of 4.11. Based on Alias Baba's mean classification (1997), the diversity and instructional proficiency domain had a very high mean score. Nonetheless, the other three domains were not too far away by scoring highly in the range of 3.41 to 4.20. In conclusion, the finding revealed that the level of teacher leadership among the generation Y teachers in MRSM throughout Malaysia was at a high level having the overall mean score as 4.16.

Table 4.3

Mean and Standard Deviation for Teacher Leadership

Variable	Domain	Mean	Standard Deviation
Teacher Leadership	Self-awareness	4.18	0.49
	Communication & Change	3.99	0.48
	Diversity and Instructional Proficiency	4.31	0.43
	Organized & Continuous Improvement	4.12	0.46

4.4.2.2 Descriptive Findings for Professional Development

Research question: What is the level of professional development of Generation Y teachers in MRSM?

The descriptive findings for the level of professional development were as shown in table 4.4. The overall mean score for professional development variable was 3.10 which was an average mean score based on Alias Baba's mean classification (1997). In this variable, the domain of participation had a mean score of 3.89 which happened to be the highest mean score followed by the domain of content and support which had a mean score of 3.50. This was in the classification of high mean score. The lowest mean score was 1.92 which was the mean score for the barriers domain. In conclusion, it could be said that the implementation of professional development in MRSM for the generation Y teachers was at average level and barriers was a domain which did not affect the implementation of professional development.

Table 4.4

Mean and Standard Deviation for Professional Development

Variable	Domain	Mean	Standard Deviation
Professional Development	Participation	3.89	0.68
	Content & Support	3.50	0.61
	Barriers	1.92	0.51

4.4.2.3 Descriptive Findings for Teacher Performance

Research question: What is the level of teacher performance of Generation Y teachers in MRSM?

Table 4.5 shows the descriptive findings for the level of teacher performance variable. Overall mean score for teacher performance was 4.22 whereby the mean score for the first domain, planning and preparation for classroom environment, was 4.33. This was in the very high classification (Alias Baba, 1997). The mean score for instruction was 4.18 which was in the classification of high and finally, the mean score for professional responsibilities was 4.13, also in the classification of high. In conclusion, the generation Y teachers in MRSM were performing very highly in their respective colleges.

Table 4.5

Mean and Standard Deviation for Teacher Performance

Variable	Domain	Mean	Standard Deviation
Teacher Performance	Planning & preparation for classroom environment	4.33	0.48
	Instruction	4.18	0.51
	Professional responsibilities	4.13	0.55

4.5 Inferential Statistical Analysis

A total of nineteen research hypotheses were formed to meet the objectives of research as well as to answer the research questions. The following is the elaboration of the results of research hypotheses testing measured at the level of significance of $p<0.05$.

4.5.1 Differences in teacher leadership, professional development and teacher performance based on demographic information

Research question: Is there a difference in the level of teacher leadership, professional development and teacher performance based on the demographic (gender, qualification and CGPA) of generation Y teachers in MRSM?

There were nine hypotheses involved in making comparison between two mean scores. The comparison here was to test whether there was or there was no significant difference between two mean values. Independent *t*-test was applied and this answered the question was there any difference in the level of teacher leadership,

professional development and teacher performance based on the demographic of gender, qualification and CGPA.

The uncertainty in hypothesis testing such as type I error (falsely rejecting a null hypothesis) and type II error (falsely accepting a null hypothesis) cannot be eliminated altogether (Banerjee, Chitnis, Jadhar, Bhawalkar & Chaudhury, 2016). Ideally, type I and type II errors would be set at zero eliminating the possibility of false-positive and false-negative results. This study had set type I error at 0.10 and type II error at 0.20 as the predetermined level of statistical significance.

4.5.1.1 Significant Difference in Teacher Leadership

The question that was pondered upon was whether or not there was a difference in the level of teacher leadership between male teachers and female generation Y teachers in MRSM. Thus, a null hypothesis was built and tested for its significant difference.

Ho1 *There is no significant difference in the level of teacher leadership based on gender of generation Y teachers in MRSM*

Table 4.6 describes the result for the significant difference in the level of teacher leadership of generation Y teachers in MRSM based on gender.

Table 4.6

Significant Difference in the level of teacher leadership based on gender

Variable	**Male**		**Female**		**p-value**
Teacher Leadership	Mean	Standard Deviation	Mean	Standard Deviation	0.99
	4.16	0.44	4.16	0.39	

Based on the table above, p-value was >0.05 (0.99 > 0.05), therefore we could conclude that there was no significant difference in the level of teacher leadership based on gender. This findings showed the first null hypothesis (Ho1) which stated that there was no significant difference in the level of teacher leadership based on gender was failed to reject. This proved that there was no difference in the level of teacher leadership between male generation Y teachers and female generation Y teachers of MRSM. Thus it could be concluded that female or male teachers of generation Y in MRSM had practised teacher leadership values regardless of their gender.

The next demographic information was the qualification of the generation Y teachers in MRSM. Since teachers recruited by MARA were graduates from local universities as well as universities abroad, this research intended to study whether or not there was a difference in the level of teacher leadership between local graduates and graduates from university abroad. Thus, this hypothesis was tested.

Ho2 There is no significant difference in the level of teacher leadership based on qualification of generation Y teachers in MRSM

Table 4.7 shows the result for the significant difference in the level of teacher leadership based on qualification.

Table 4.7

Significant Difference in the level of teacher leadership based on qualification

Variable	**Local**		**Oversea**		**p-value**
Teacher	Mean	Standard Deviation	Mean	Standard Deviation	0.04
Leadership	4.18	0.39	4.05	0.47	

From the table above, p-value was <0.05 (0.04 > 0.05), therefore we could conclude that there was a significant difference in the level of teacher leadership based on qualification. Thus, the second null hypothesis (Ho2) which stated that there was no significant difference in the level of teacher leadership based on qualification of generation Y teachers in MRSM was rejected. This meant that generation Y teachers of MRSM who graduated from local universities did not have the same level of teacher leadership with their counterpart who graduated from universities abroad. What can be derived from this findings was that qualification of the generation Y teachers in MRSM contributed to the difference in the level of teacher leadership. Generation Y teachers who were locally graduated had a higher level of teacher leadership based on the mean value of those two groups. This finding was not subjected to Type I error since the p-value was 0.04 which was less than Type I predetermined level of statistical significance. The null hypothesis was significantly rejected.

The final demographic information which was considered to contribute to the difference in the level of teacher leadership of generation Y teachers in MRSM was CGPA or the class of degree. This hypothesis had been built to be analysed.

Ho3 There is no significant difference in the level of teacher leadership based on CGPA of generation Y teachers in MRSM

Table 4.8 shows the result for the significant difference in the level of teacher leadership based on CGPA of generation Y teachers in MRSM.

Table 4.8

Significant Difference in Teacher Leadership Based on CGPA

Variable	**Above 3.00**		**Below 3.00**		**p-value**
Teacher Leadership	Mean	Standard Deviation	Mean	Standard Deviation	0.64
	4.17	0.42	4.14	0.37	

Based on the table above, p-value was >0.05 (0.64 > 0.05), therefore the conclusion was there was no significant difference in the level of teacher leadership based on CGPA. Thus, the third null hypothesis (Ho3) which stated that there was no significant difference in the level of teacher leadership based on CGPA was failed to be rejected. Nonetheless, this result was subjected to type II error. Taking into consideration the risk of committing type II error and the predetermined level of statistical significance for type II error, this led to the conclusion that there was 20% chance of missing an association of a given effect size between CGPA above 3.00 and below 3.00. This represented a power of 80% chance of finding an association of

no significant difference in the level of teacher leadership between generation Y teachers in MRSM who scored their CGPA above 3.00 and below 3.00. There was 80% chance that class of degree did not contribute to the difference in the level of teacher leadership among generation Y teachers in MRSM.

4.5.1.2 Significant Difference in Professional Development

As for professional development, the demographic aspects being analysed for their contribution in the significant difference were gender, qualification and CGPA. For gender, this hypothesis had been posed.

Ho4 *There is no significant difference in the level of professional development based on gender of generation Y teachers in MRSM*

Table 4.9 shows the result for the significant difference in professional development based on gender.

Table 4.9

Significant Difference in Professional Development Based on Gender

Variable	**Male**		**Female**		**p-value**
Professional Development	Mean	Standard Deviation	Mean	Standard Deviation	0.32
	3.13	0.37	3.09	0.39	

Based on the table above, p-value was >0.05 (0.32 > 0.05), therefore we concluded that there was no significant difference in the level of professional development based on gender. Thus, the fourth null hypothesis (Ho4) which stated that there was

no significant difference in the level of professional development based on gender of generation Y teachers in MRSM was failed to be rejected. This was not subjected to type II error since the sample size was a sufficient number to reduce the risk of taype II error.

For the demographic of qualification, this hypothesis was postulated to be analysed.

Ho5 *There is no significant difference in the level of professional development based on qualification of generation Y teachers in MRSM*

Table 4.10 shows the result for the significant difference in the level of professional development based on qualification of generation Y teachers in MRSM.

Table 4.10

Significant Difference in the level of Professional Development Based on Qualification

Variable	**Local**		**Oversea**		**p-value**
Professional Development	Mean	Standard Deviation	Mean	Standard Deviation	0.04
	3.12	0.37	2.99	0.46	

Based on the table above, p-value was <0.05 (0.04 < 0.05), therefore we can conclude that there was a significant difference in the level of professional development based on qualification. Thus, the fifth null hypothesis (Ho5) which stated that there was no significant difference in the level of professional development based on qualification of generation Y teachers in MRSM was rejected. This means that there was a difference in the level of professional development

between locally graduated generation Y teachers and generation Y teachers who graduated from university abroad. Graduates form local universities seemed to have higher level of professional development in contrast to the ones graduated from universities abroad. In addition, there was no risk of type I error since the p-value was less than the predetermined level of statistical significance set for type I error.

The final demographic aspect for professional development was CGPA of generation Y teachers in MRSM. This hypothesis was proposed.

Ho6 There is no significant difference in the level of professional development based on CGPA of generation Y teachers in MRSM

Table 4.11 shows the result for the significant difference in the level of professional development based on CGPA.

Table 4.11

Significant Difference in the level of Professional Development Based on CGPA

Variable	**Above 3.00**		**Below 3.00**		**p-value**
Professional Development	Mean	Standard Deviation	Mean	Standard Deviation	0.48
	3.11	0.39	3.07	0.34	

Based on the table above, p-value was >0.05 (0.48 > 0.05), therefore we can conclude that there was no significant difference in the level of professional development based on CGPA. Thus, the sixth null hypothesis (Ho6) which stated that there was no significant difference in the level of professional development based on CGPA was failed to be rejected. Nonetheless, this result was subjected to

false-positive result. Referring to the risk of committing type II error and the predetermined level of statistical significance for type II error, this led to the conclusion that there was 20% chance of missing an association of a given effect size between CGPA above 3.00 and below 3.00. This represented a power of 80% chance of finding an association of no significant difference in the level of professional development between generation Y teachers in MRSM who scored their CGPA above 3.00 and below 3.00. There was 80% chance that class of degree did not contribute to the difference in the level of professional development among generation Y teachers in MRSM.

4.5.1.3 Significant Difference in Teacher Performance

Significant difference in the level of teacher performance was also analysed from the demographic aspects of gender, qualification and CGPA. This research intended to investigate whether gender played a role in making a difference in the level of teacher performance of generation Y teachers in MRSM based on this hypothesis:

Ho7 There is no significant difference in the level of teacher performance based on gender of generation Y teachers in MRSM

Table 4.12 shows the result for the significant difference in the level of teacher performance based on gender.

Table 4.12

Significant Difference in the level of Teacher Performance Based on Gender

Variable	**Male**		**Female**		**p-value**
Teacher Performance	Mean	Standard Deviation	Mean	Standard Deviation	0.61
	4.23	0.47	4.21	0.46	

Based on the table above, p-value was >0.05 (0.61 > 0.05), therefore we concluded that there was no significant difference in the level of teacher performance based on gender. Thus, the seventh null hypothesis (Ho7) which stated that there was no significant difference in the level of teacher performance based on gender was failed to be rejected. This meant that there was no difference in the level of teacher performance between male generation Y teachers and female generation Y teachers in MRSM.

Next is the demographic of qualification. This hypothesis was posited to help answer the research question is there a difference in the level of teacher performance based on qualification.

Ho8 There is no significant difference in the level of teacher performance based on qualification of generation Y teachers in MRSM.

Table 4.13 shows the result for the significant difference in the level of teacher performance based on qualification of generation Y teachers in MRSM.

Table 4.13

Significant Difference in the level of Teacher Performance Based on Qualification

Variable	**Local**		**Oversea**		**p-value**
Teacher Performance	Mean	Standard Deviation	Mean	Standard Deviation	0.00
	4.24	0.45	4.04	0.49	

Based on the table above, p-value was <0.05 (0.00 < 0.05), therefore we concluded that there was a significant difference in teacher performance based on qualification. Thus, the eighth null hypothesis (Ho8) which stated that there was no significant difference in the level of teacher performance based on qualification was rejected. This meant that there was a difference in the level of teacher performance between generation Y teachers who were locally graduated and those graduated from university abroad. And again, the locally graduated generation Y teachers were showing a higher level of performance in contrast to overseas graduates. This hypothesis testing was not subjected to Type I error (false-positive) due to the fact that the p-value was less than the predetermined level of statistical significance for Type I error in this research.

Finally, teacher performance was being analysed in terms of CGPA to see whether there was a difference in the level of teacher performance or not.

Ho9 There is no significant difference in the level of teacher performance based on CGPA of generation Y teachers in MRSM.

Table 4.14 shows the result for the significant difference in the level of teacher performance based on CGPA of generation Y teachers in MRSM.

Table 4.14

Significant Difference in the level of Teacher Performance Based on CGPA

Variable	**Above 3.00**		**Below 3.00**		**p-value**
Teacher	Mean	Standard Deviation	Mean	Standard Deviation	0.02
Performance	4.24	0.46	4.08	0.44	

Based on the table above, p-value was <0.05 (0.02 < 0.05). We concluded that there was a significant difference in the level of teacher performance based on CGPA. Thus, the ninth null hypothesis (Ho9) which states that there is no significant difference in the level of teacher performance based on CGPA was rejected. This meant that there was a difference in the level of teacher performance between generation Y teachers who scored above 3.0 and generation Y teachers who graduated with CGPA below 3.0. The ones with higher qualification showed a higher level of performance. This was not a false-negative testing due to the fact that the p-value was less than 0.1 (the predetermined level of statistical significance for Type I error).

4.5.2 Significant Effect among Variables

Significant effect among the variables was also looked into in this study. Since the instruments of this study involved latent constructs, it was advisable to apply Structural Equation Modeling (SEM) where it could model the inter-relationship among the components simultaneously in a model in contrast to the ordinary regression analysis (Zainudin Awang, 2015). Thus SEM was applied in this study to analyse the significant effect of teacher leadership on professional development,

teacher leadership on teacher performance, and professional development on teacher performance.

4.5.2.1 Confirmatory Factor Analysis

Figure 4.1 shows the overall measurement model consisting of three main variables namely teacher leadership (TL), professional development (PD) and teacher performance (TP).

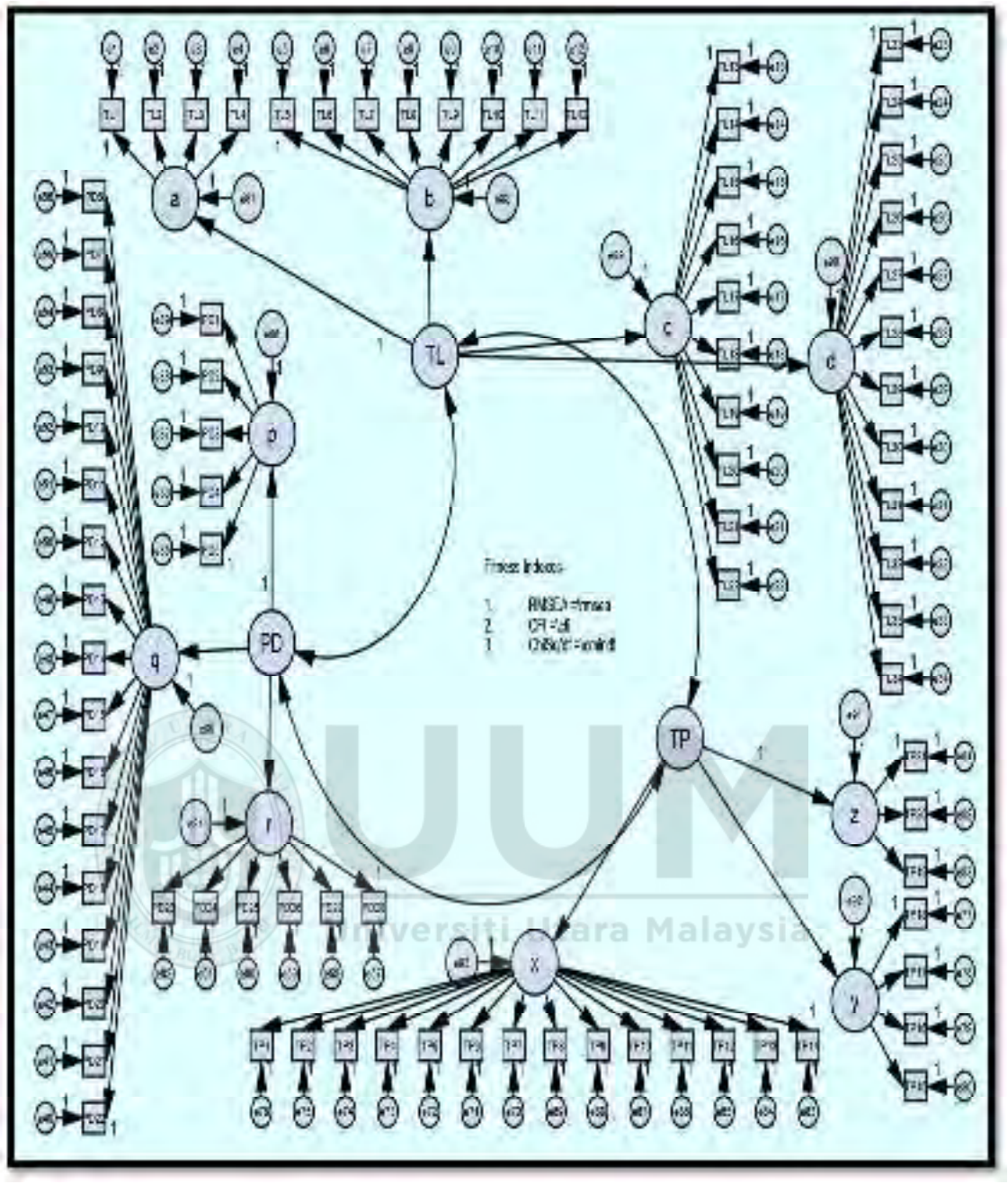


Figure 4.1. Measurement Model

For second-order unmeasured variables, TL = Teacher Leadership; PD = Professsional Development; TP = Teacher Performance. For first-order unmeasured variables, *a* = self-awareness domain (with four unmeasured variables TL1, TL2, TL3, TL4); *b* = communication and change domain (with eight unmeasured variables TL5, TL6, TL7, TL8, TL9, TL10, TL11 and TL12); *c* = diversity and instructional proficiency domain (with ten unmeasured variables TL13, TL14, TL15, TL16, TL17,

TL18, TL19, TL20, TL21 and TL22); *d* = organized and continuous improvement domain (with twelve unmeasured variables TL23, TL24, TL25, TL26, TL27, TL28, TL29, TL30, TL31, TL32, TL33 and TL34); *p* = participation domain (with five measured variables PD1, PD2, PD3, PD4 and PD5); *q* = content and support domain (with seventeen unmeasured variables PD6, PD7, PD8, PD9, PD10, PD11, PD12, PD13, PD14, PD15, PD16, PD17, PD18, PD19, PD20, PD21 and PD22); *r* = barriers domain (with six unmeasured variables PD23, PD24, PD25, PD26, PD27 and PD28); *x* = planning and preparation for classroom environment domain (with fourteen unmeasured variables TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13 and TP14); *y* = instruction domain (with four unmeasured variables TP15, TP16, TP17 and TP18); *z* = professional responsibilities domain (with three unmeasured variables TP19, TP20 and TP21).

After running the confirmatory factor analysis, the value of factor loading for each unmeasured and measured variables were shown in figure 4.2.

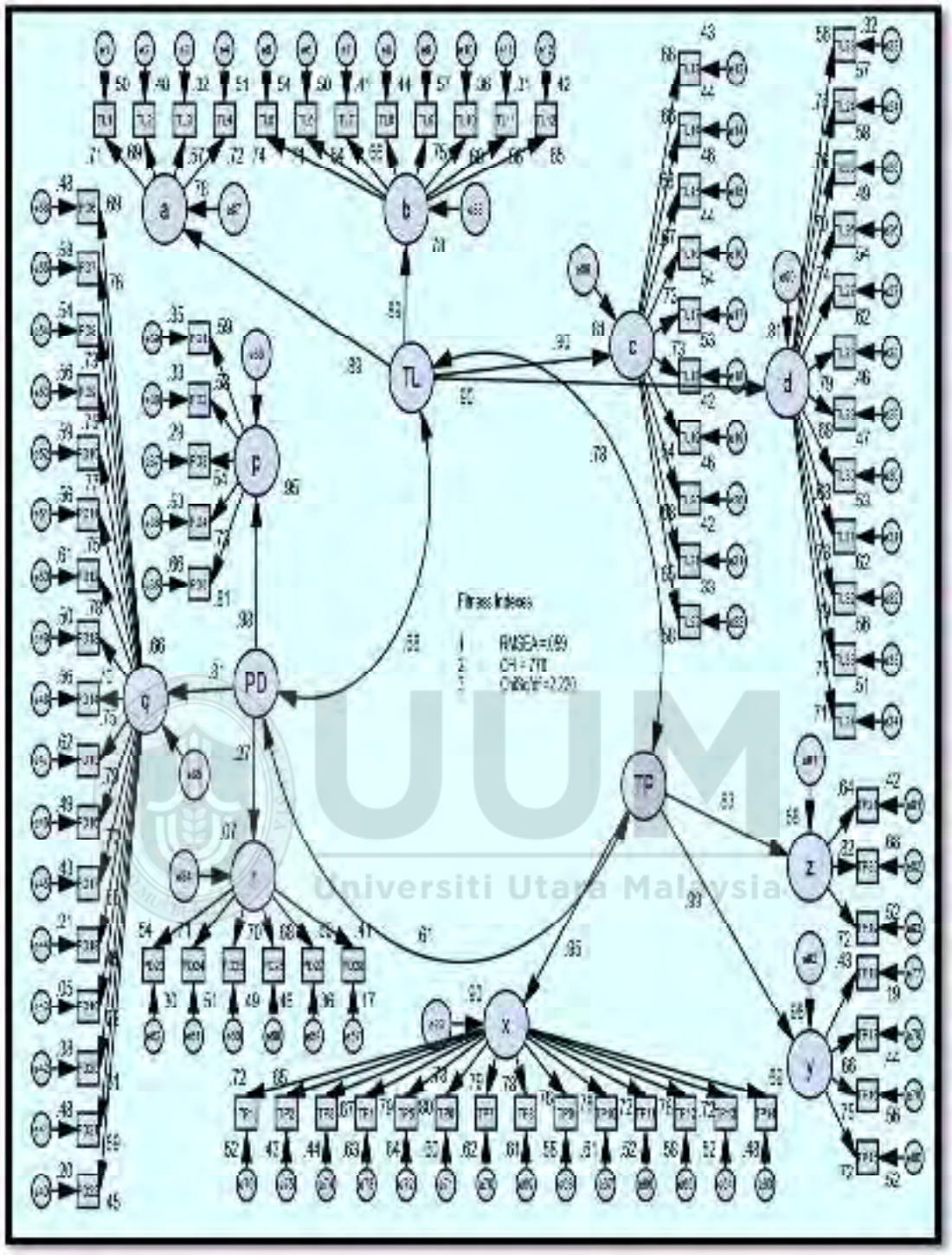


Figure 4.2. Factor loading for each unmeasured variables and measured variables

Based on Figure 4.2, the values of factor loading for every measured variable in the first-order unmeasured variables and the values of fitness indexes for the overall measurement model were presented. The measured variables with factor loading below 0.60 were deleted from the model. The items were deleted one by one starting

with the lowest value. After a measured variable had been deleted, the new measurement model had to be re-specified and run again. This process was repeated until the fitness indexes for the measurement model achieved the required level. All values for factor loading were set to be higher than 0.60.

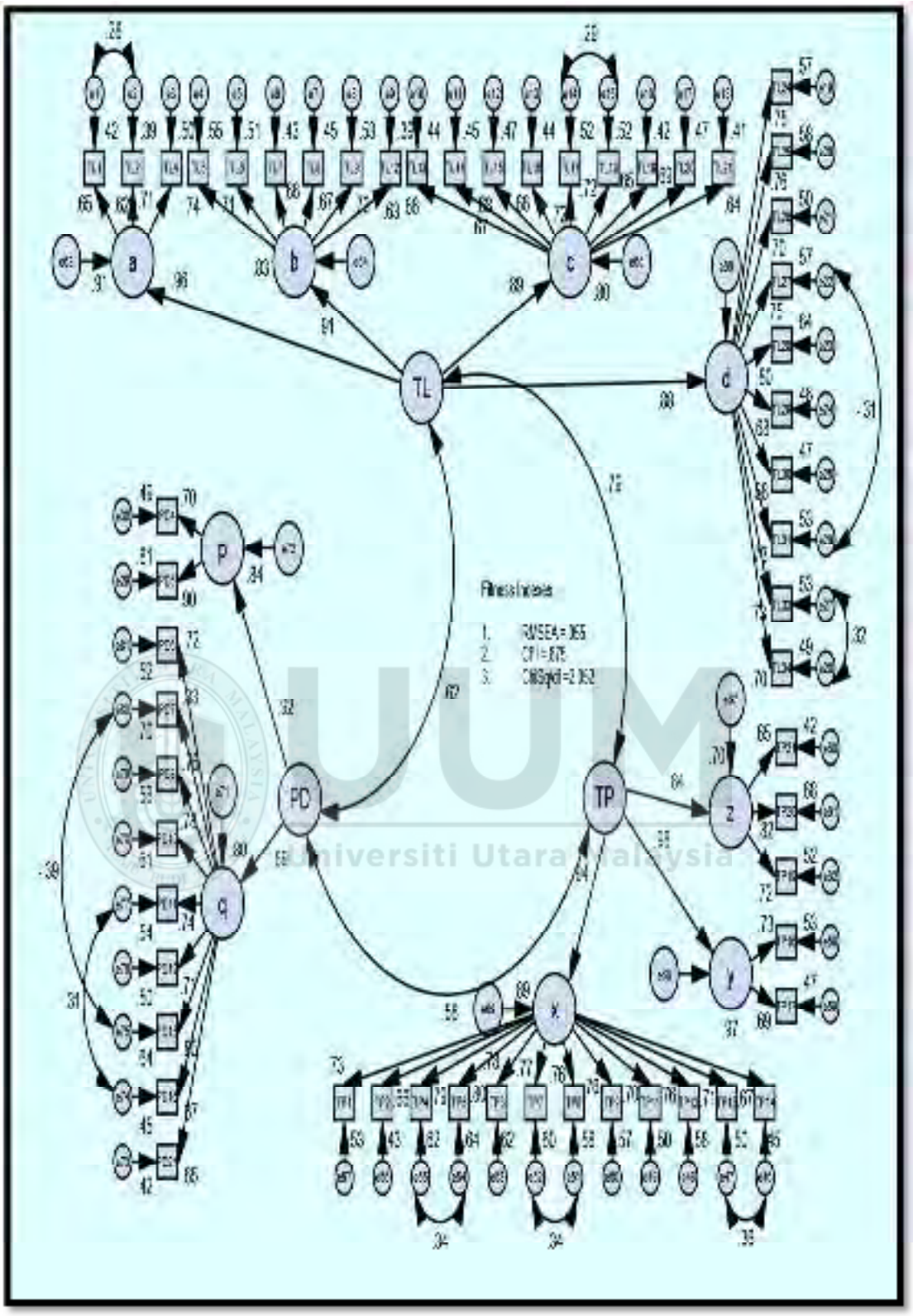


Figure 4.3. Last measurement model

Figure 4.3 shows the last measurement model after deleting the items that had lower factor loading which was below 0.60. The items that had high value of modification indices were set to be 'free parameter'. The last measurement model showed that the measuring items had acceptable factor loading for the respective components of each variable. Some random measurement errors for measured variables were correlated. This was indeed necessary and was used conservatively. Multitrait-Multimethod model was applied because it allows for correlation from a single method (Byrne, 2016). Measurement errors which were correlated had highly similar items. Freeing the parameter by correlating errors was done one-at-a-time until the result of the model is a good approximation.

In the model, for teacher leadership variable, one item was deleted from the first domain (self-awareness) leaving it with three items evaluating self-awareness domain. Two items were rejected for the second domain. The items in this domain represent communication and change. The six items remaining were still items on communication as well as change. As for the third domain, diversity and instructional proficiency, one item was rejected and this item was evaluating continuous improvement. Thus the nine items left in the third domain were items on diversity and instructional proficiency. Finally, two items were rejected from the last domain (organized and continuous improvement) leaving this domain with ten items. All the ten items were testing instructional proficiency, continuous improvement and self-organization. To conclude, this deletion did not affect the content validity because all the twenty-eight items left to test teacher leadership retained the seven domains of the original instrument from Katzenmeyer and Moller (2009) presented in four domains combined.

As for professional development variable, six measured variables (PD23, PD24, PD25, PD26, PD27 and PD28) were deleted from the model because they produced a very weak loading on the first-order unmeasured variable, barriers. When reading the theory on professional development, theory of change stresses on the on-going process (how it happens) of producing outcomes that would give positive effects to the organization. This referred to the activities of PD (such as mentoring and coaching) and the content included in such activities. Thus the proposed dimension, which was barriers, simply did not capture what was intended for professional development. Eleven measured variables (PD4, PD5, PD6, PD7, PD8, PD10, PD11, PD12, PD15, PD16 and PD21) from two first-order unmeasured variables were retained focusing on the content of participation, type of professional development activities, format of professional development programmes, contents of the programmes and perceived impact of professional development programmes.

Finally, for teacher performance variable, three first-order unmeasured variables were maintained in the model deleting only two measured variables (TP3 and TP10) from planning and preparation for classroom domain and two measured variables (TP15 and TP18) from instruction domain. All the seventeen measured variables which were group under three domains (first-order unmeasured variables) focused on all the four original domains of Framework for Teaching (Danielson, 2013). Thus the content validity of the construct was not affected by the deletion.

All the values of fitness indexes were satisfied and had achieved the required level.

The summary for the assessment of fitness indexes for the last measurement model was presented in Table 4.15.

Table 4.15

Summary for the Assessment of Fitness Indexes

Category	Fit statistics	Recommended	Obtain	Comment
Absolute Fit	RMSEA	<0.08	0.06	Achieved
Incremental Fit	CFI	>0.90	0.88	Satisfied
Parsimonious Fit	Chisq/df	<3.0	2.05	Achieved

Based on Table 4.15, the value of RMSEA obtained was 0.06. The Absolute Fit Category had achieved the required level since the value of RMSEA obtained was less than 0.08 as suggested by Browne and Cudeck (1993). The value of CFI was 0.88 and this Incremental Fit Category had satisfied the required level since the value of CFI was approaching 0.90. Finally, the value of parsimonious fit was 2.05 which was less than 3.0 as suggested by Marsh and Hocevar (1995) and Zainudin Awang (2015). This means that the Parsimonious Fit Category had also achieved the required level.

4.5.2.2 Validity and Reliability of Structural Model

Based on the last measurement model, validity and reliability analysis was performed for each domain of the variables in order to further confirm the fitness of this structural model. The CFA results for each variable and domains are as in Table 4.16 for teacher leadership, Table 4.17 for professional development and Table 4.18 for teacher performance.

Table 4.16

CFA Results for Teacher Leadership Measurement Model

Variable	Item	Factor Loading	AVE	CR
Teacher Leadership	Self-awareness	0.96	0.83	0.95
	Communication and change	0.91		
	Diversity and instructional proficiency	0.89		
	Organized and continuous improvement	0.88		
Self-awareness	TL1	0.65	0.44	0.70
	TL2	0.62		
	TL4	0.71		
Communication and Change	TL5	0.74	0.48	0.85
	TL6	0.71		
	TL7	0.66		
	TL8	0.67		
	TL9	0.73		
	TL12	0.63		
Diversity and Instructional Proficiency	TL13	0.66	0.46	0.88
	TL14	0.67		
	TL15	0.68		
	TL16	0.66		
	TL17	0.72		

Table 4.16 (Cont)

	TL18	0.72		
	TL19	0.65		
	TL20	0.69		
	TL21	0.64		
Organized and	TL24	0.75	0.53	0.92
Continuous	TL25	0.76		
Improvement	TL26	0.70		
	TL27	0.75		
	TL28	0.80		
	TL29	0.68		
	TL30	0.68		
	TL31	0.73		
	TL33	0.73		
	TL34	0.70		

Table 4.17

CFA Results for Professional Development Measurement Model

Domain	**Item**	**Factor Loading**	**AVE**	**CR**
Professional	Participation	0.92	0.82	0.90
Development	Content and support	0.89		
Participation	PD4	0.70	0.65	0.79
	PD5	0.90		

Table 4.17 (Cont)

Content and support	PD6	0.72	0.55	0.92
	PD7	0.83		
	PD8	0.76		
	PD10	0.78		
	PD11	0.74		
	PD12	0.71		
	PD15	0.80		
	PD16	0.67		
	PD21	0.65		

Table 4.18

CFA Results for Teacher Performance Measurement Model

Domain	**Item**	**Factor Loading**	**AVE**	**CR**
Teacher Performance	Planning and preparation for classroom environment	0.94	0.79	0.94
	Instruction	0.98		
	Professional responsibilities	0.84		
Planning and preparation for classroom environment	TP1	0.73	0.55	0.94
	TP2	0.66		
	TP4	0.79		
	TP5	0.78		
	TP6	0.80		

Table 4.18 (Cont)

	TP7	0.77		
	TP8	0.76		
	TP9	0.76		
	TP11	0.70		
	TP12	0.76		
	TP13	0.71		
	TP14	0.67		
Instruction	TP17	0.69	0.50	0.67
	TP18	0.73		
Professional	TP19	0.72	0.54	0.78
responsibilities	TP20	0.82		
	TP21	0.65		
	TL20	0.69		
	TL21	0.64		

The discriminant validity index summary for all the variables is as in Table 4.19.

Table 4.19

Discriminant Validity Index Summary

Variables	Teacher Leadership	Professional Development	Teacher Performance
Teacher Leadership	0.91	0.62	0.79
Professional Development	0.62	0.91	0.58
Teacher Performance	0.79	0.58	0.89

The requirement for unidomainality, validity and reliability of the measurement models were met. Then the modelling of the structural model and the testing of the hypothesis were performed.

4.5.2.3 Path Analysis Using Structural Equation Modelling (SEM)

This study performed the Structural Equation Modeling (SEM) based on the domains left (after CFA) for each variable.

Figure 4.4 shows the last measurement model which is assembled into structural model for further analysis. The structural model should be modified if the fitness indexes were not achieved. However, since the fitness indexes had achieved the required level, there was no modification for the SEM structural model.

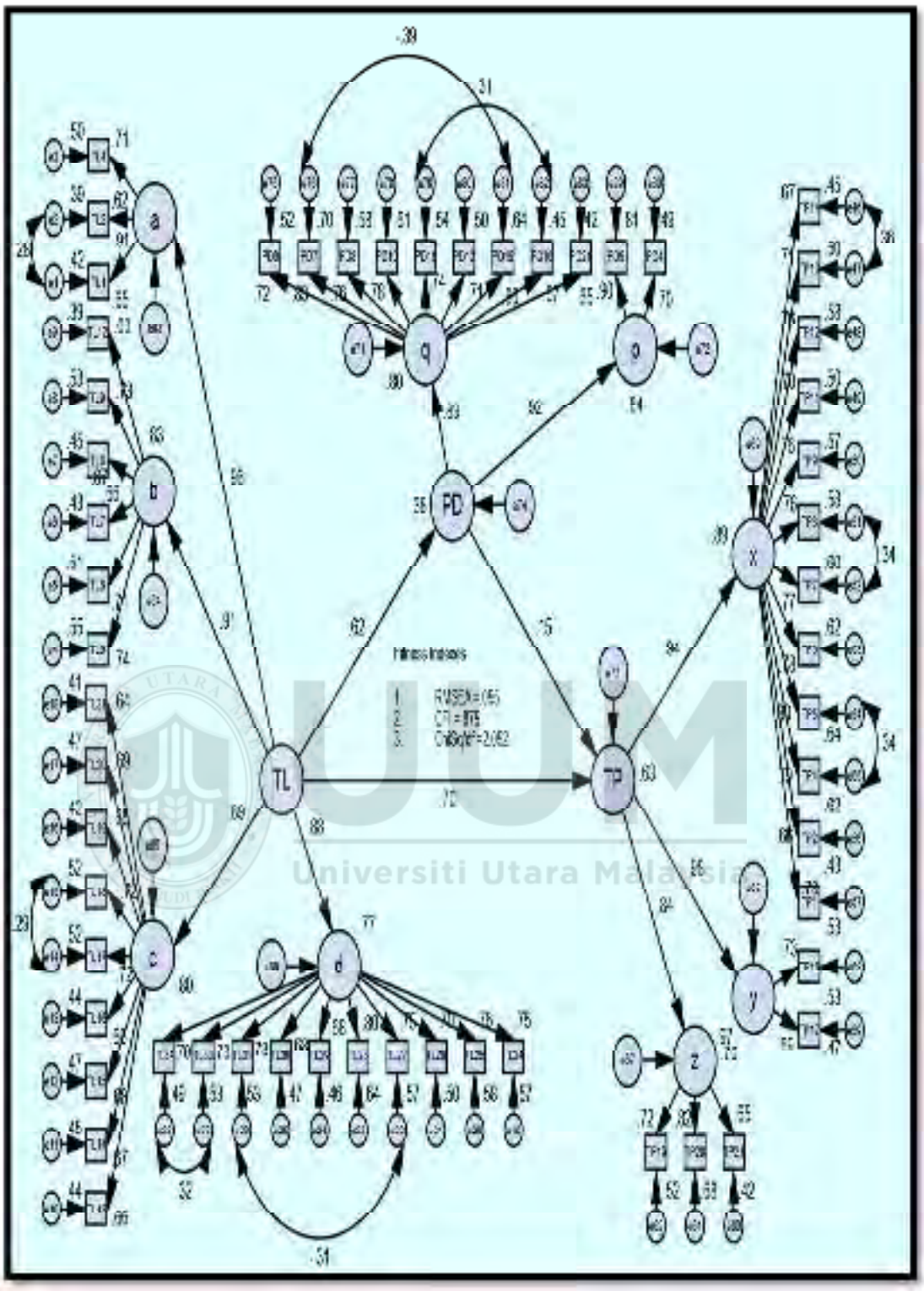


Figure 4.4. SEM structural Model

Table 4.20 shows the standardized regression weight for the structural model.

Table 4.20

Path Coefficient for the structural model

Path	Estimate	S.E.	C.R.	P
Teacher Leadership to Teacher Performance	0.70	0.08	7.40	0.0001
Teacher Leadership to Professional Development	0.62	0.11	8.00	0.0001
Professional Development to Teacher Performance	0.15	0.04	2.37	0.0180

Research question: Is there any significant efffect of teacher leadership on teacher performance, teacher leadership on professional development and professional development on teacher performance?

Based on table 4.20, the significant effect among the variables were explained. The first was the effect of teacher leadership on teacher performance based on this hypothesis

Ho10 There is no significant effect of teacher leadership on teacher performance for generation Y teachers in MRSM

The path coefficient of teacher leadership to teacher performance was 0.70. This value indicates that for every one unit increase in teacher leadership, its effect would contribute 0.70 unit increase in teacher performance. And since the p value is less

than 0.05 (p=0.0001 < 0.05), there is a significant effect of teacher leadership on teacher performance. Thus, the null hypothesis is rejected.

Second was the effect of teacher leadership on professional development which is presented in this hypothesis.

Ho11 There is no significant effect of teacher leadership on professional development for generation Y teachers in MRSM.

The path coefficient of teacher leadership to professional development was 0.62. This value indicates that for every one unit increase in teacher leadership, its effect would contribute 0.62 unit increase in professional development. And since the p value is less than 0.05 (p=0.0001 < 0.05), there is a significant effect of teacher leadership on professional development. Thus, the null hypothesis is rejected.

Third was the effect of professional development on teacher performance which was postulated by this hypothesis.

Ho12 There is no significant relationship between professional development and teacher performance of generation Y teachers in MRSM

The path coefficient of teacher leadership to teacher performance was 0.15. This value indicates that for every one unit increase in professional development, its effect would contribute 0.15 unit increase in teacher performance. And since the p value is

less than 0.05 ($p=0.0180 < 0.05$), there is a significant effect of professional development on teacher performance. Thus, the null hypothesis is also rejected.

4.5.3 Influence of Domains of Teacher Leadership and Professional Development on Teacher Performance

Research question: What are the domains of teacher leadership and professional development that influence teacher performance of Generation Y teachers in MRSM?

SEM was performed in order to identify the influence of domains of teacher leadership and professional development on teacher performance.

4.5.3.1 Influence of Teacher Leadership on Teacher Performance

How strong each domain of teacher leadership influenced teacher performance could be identified by looking at the path coefficient of each domain (first-order unmeasured variable) of teacher leadership to teacher performance.

Figure 4.5 shows the path analysis for the domains of teacher leadership on teacher performance.

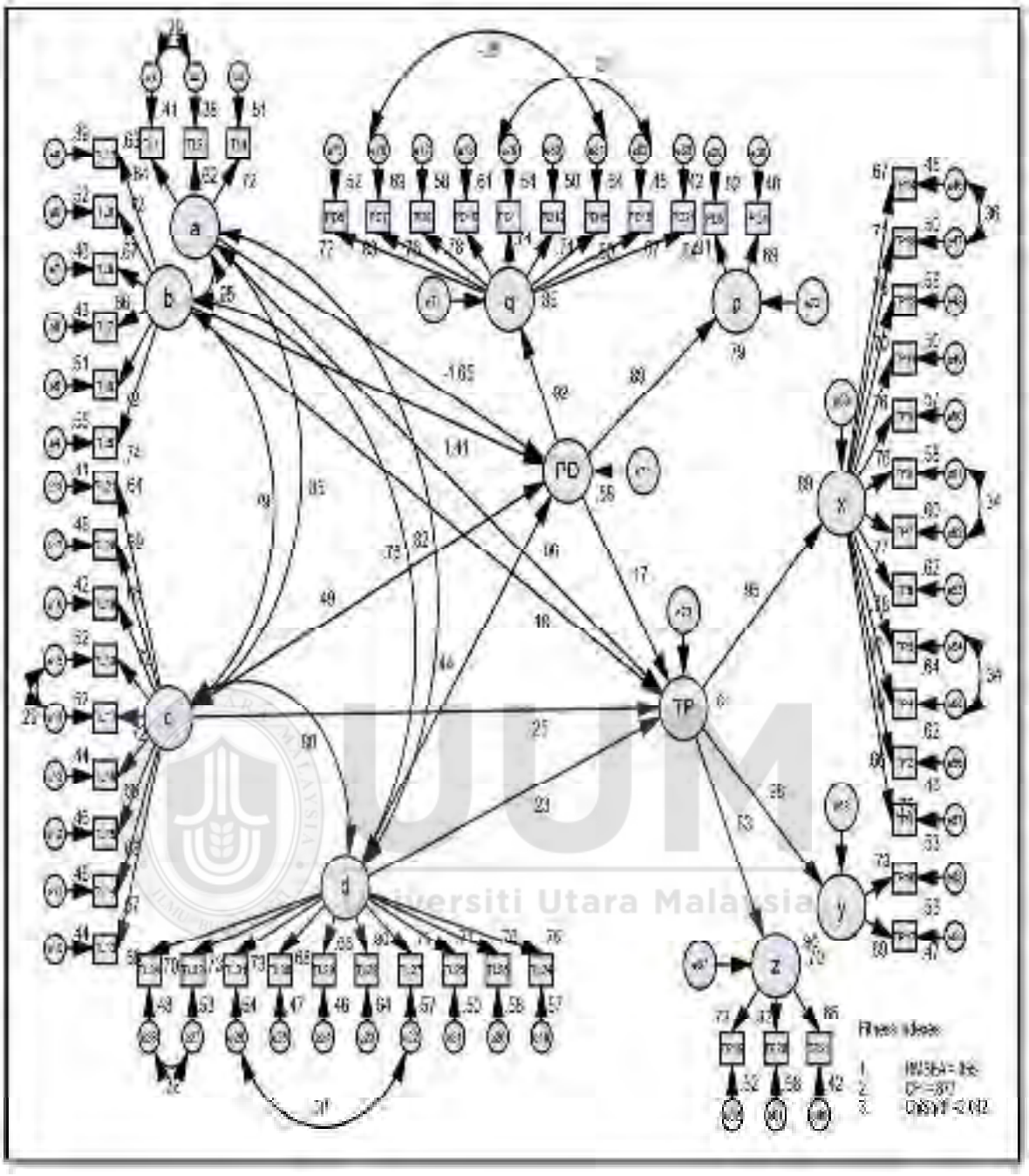


Figure 4.5. Path analysis for influence of teacher leadership on teacher performance

Table 4.21 shows the path coefficient of the four domains of teacher leadership teacher leadership and their p values.

Table 4.21
Path Coefficient of Teacher Leadership Domains on Teacher Performance

Path			Estimate	S.E.	C.R.	P
a	to	TP	0.056	.520	.086	0.642
b	to	TP	0.180	.344	.352	0.278
c	to	TP	0.248	.150	1.314	0.029
d	to	TP	0.230	.088	1.821	0.003

Ho13a: Teacher Performance is not significantly influenced by the self-awareness domain (a) of teacher leadership of generation Y teachers in MRSM.

The path coefficient of self-awareness domain to teacher performance was 0.056. This value indicated that for every one unit increase in this domain, its effect contributed 0.056 unit increase in teacher performance. Since p value was greater than 0.05 (p=0.642 > 0.05), therefore teacher performance was not significantly influenced by the self-awareness domain of teacher leadership of generation Y teachers in MRSM. Thus, the null hypothesis was failed to be rejected.

Ho13b: Teacher Performance is not significantly influenced by the communication and change domain (b) of teacher leadership of generation Y teachers in MRSM.

The path coefficient of communication and change domain to Teacher Performance was 0.180. This value indicated that for every one unit increase in this domain, its effects contributed 0.180 unit increase in Teacher Performance. Since the p value was greater than 0.05 (p=0.278 > 0.05), therefore Teacher Performance was not significantly influenced by communication and change domain of teacher leadership of generation Y teachers in MRSM. Thus, the null hypothesis was failed to be rejected.

Ho13c: Teacher Performance is not significantly influenced by diversity and instructional proficiency domain (c) of teacher leadership of generation Y teachers in MRSM.

The path coefficient of diversity and instructional proficiency domain to Teacher Performance was 0.248. This value indicated that for every one unit increase in this dimension, its effect contributed 0.248 unit increase in Teacher Performance. Since the p value was less than 0.05 ($p=0.029 < 0.05$), therefore Teacher Performance was significantly influenced by diversity and instructional proficiency domain of teacher leadership of generation Y teachers in MRSM. Thus, the null hypothesis was rejected.

Ho13d: Teacher Performance is not significantly influenced by organized and continuous improvement domain (d) of teacher leadership of generation Y teachers in MRSM.

The path coefficient of organized and continuous improvement domain to teacher performance was 0.056. This value indicated that for every one unit increase in this dimension, its effect contributed 0.056 unit increase in teacher performance. Since the p value was less than 0.05 ($p=0.003 < 0.05$), teacher performance was significantly influenced by organized and continuous improvement domain of teacher leadership of generation Y teachers in MRSM. Thus, the null hypothesis was rejected.

4.5.3.2 Influence of Professional Development on Teacher Performance

This study also looked into which domain of professional development had influenced teacher performance best. This analysis was done after the fit model was achieved. Based on the last measurement model, there were only two domains of professional development left. Thus, the hypotheses to be tested regarding the influence of the domains of professional development on teacher performance were again revised resulting in two hypoteheses.

Figure 4.6 shows the path analysis for the domains of professional development on teacher performance.

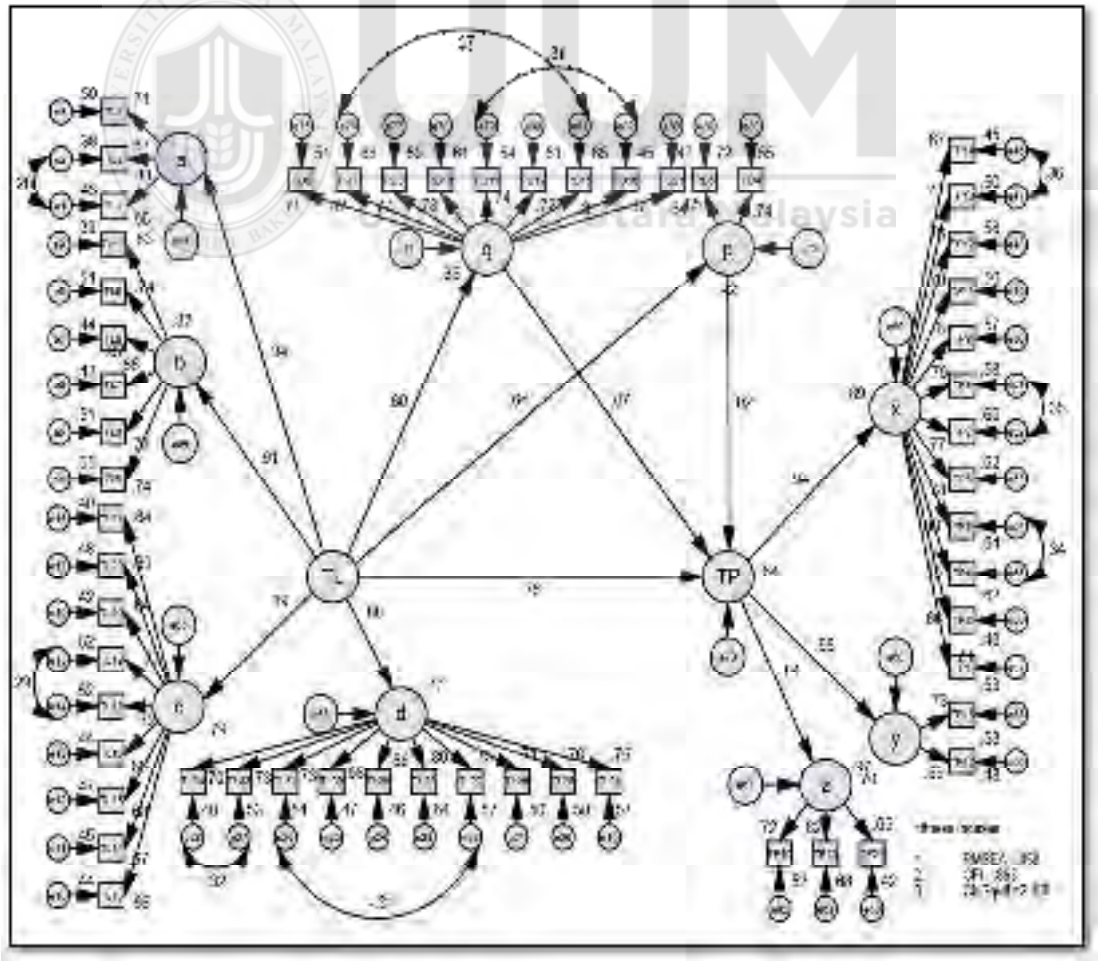


Figure 4.6. Path analysis for influence of professional development on teacher performance

Table 4.22 shows the path coefficient of the two domains of professional development and their p values.

Table 4.22
Path Coefficient of Professional Development Domains on Teacher Performance

Path			Estimate	S.E.	C.R.	P
p	to	TP	0.015	.031	.233	0.019
q	to	TP	0.067	.028	1.230	0.011

Ho14a: Teacher Performance is not significantly influenced by participation domain (p) of professional development of generation Y teachers in MRSM.

The path coefficient of participation domain to teacher performance was 0.015. This value indicated that for every one unit increase in this domain, its effects contributed 0.015 unit increase in teacher performance. Since the p value was less than 0.05 (p=0.019< 0.05), therefore teacher performance was significantly influenced by participation domain of professional development of generation Y teachers in MRSM. Thus, the null hypothesis was rejected.

Ho14b : Teacher Performance is not significantly influenced by content and support domain (q) of professional development of generation Y teachers in MRSM.

The path coefficient of content and support domain to teacher performance was 0.067. This value indicated that for every one unit increase in this domain, its effects contributed 0.067 unit increase in teacher performance. Since the p value was less than 0.05 (p=0.011< 0.05), therefore teacher performance was significantly

influenced by content and support domain of professional development of generation Y teachers in MRSM. Thus, the null hypothesis was rejected.

4.5.4 Professional Development as a Mediator between Teacher Leadership and Teacher Performance

Research question: Does professional development mediate the relationship between teacher leadership and teacher performance?

The analysis for mediation was performed to test whether professional development mediated the effect of independent construct (teacher leadership) on dependent construct (teacher performance). Figure 4.5 shows the mediation model.

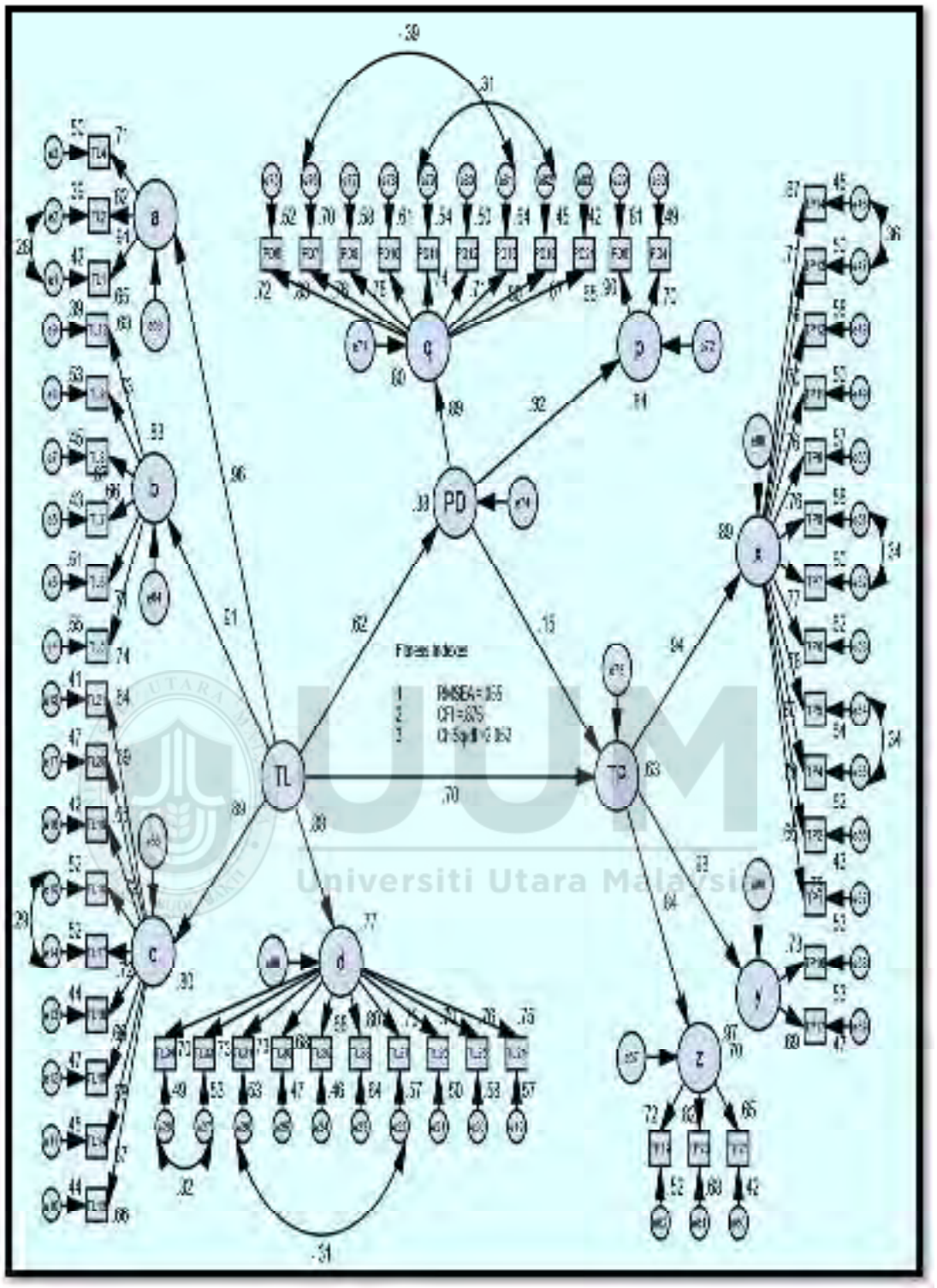


Figure 4.7. Mediation Model

The mediation model described the function of professional development in the relationship between teacher leadership and teacher performance.

Table 4.23 shows the result for testing the mediation.

Table 4.23

Result for Testing the Mediation

Path	Estimate	S.E.	C.R.	P	Comment
Teacher Leadership to Professional Development	0.62	0.112	8.006	0.0001	Significant
Teacher Leadership to Teacher Performance	0.70	0.078	7.400	0.0001	Significant
Professional Development to Teacher Performance	0.15	0.035	2.365	0.0180	Significant

The result from Table 4.23 showed the direct effect of teacher leadership towards teacher performance was significant when controlling for the mediator. The effect of teacher leadership on teacher performance was mediated by a change in the mediating variable. This finding had met the conditions set for mediation when:

1. the hypothesis testing for the relationship between teacher leadership and teacher performance was significant,
2. the hypothesis testing for the relationship between teacher leadership and professional development was also significant,

3. Finally, the hypothesis testing for the relationship between professional development and teacher performance was also significant.

The result showed the coefficient value was reduced when the mediator was introduced into the model. This means that partial mediation had occurred because professional development only mediated part of the effect of the intervention on the outcome, that is, the intervention had some residual direct effect even after the mediator was introduced into the model. Thus, the fifteenth null hypothesis was rejected.

Ho15 Professional development does not mediate the relationship between teacher leadership and teacher performance

Hence, it could be concluded that professional development mediated the relationship between teacher leadership and teacher performance.

4.6 Summary of Hypotheses Testing

As a summary, table 4.24 below shows the overall results of hypothesis testing for all the hypotheses being tested.

Table 4.24

Summary of Hypotheses Testing Results

No. of Hypothesis	Hypothesis	Result on Hypothesis
Ho1	There is no significant difference in the level of teacher leadership based on gender	Failed to reject
Ho2	There is no significant difference in the level of	Rejected

	teacher leadership based on qualification	
Ho3	There is no significant difference in the level of teacher leadership based on CGPA	Failed to reject
Ho4	There is no significant difference in the level of professional development based on gender	Failed to reject
Ho5	There is no significant difference in the level of professional development based on qualification	Rejected
Ho6	There is no significant difference in the level of professional development based on CGPA	Failed to reject
Ho7	There is no significant difference in the level of teacher performance based on gender	Failed to reject
Ho8	There is no significant difference in the level of teacher performance based on qualification	Rejected
Ho9	There is no significant difference in the level of teacher performance based on CGPA	Rejected
Ho10	There is no significant effect of teacher leadership on teacher performance	Rejected
Ho11	There is no significant effect of teacher leadership on professional development	Rejected
Ho12	There is no significant effect of professional development on teacher performance	Rejected
Ho13a	Teacher Performance is not significantly influenced by the self-awareness domain of teacher leadership of generation Y teachers in	Failed to reject

	MRSM	
Ho13b	Teacher Performance is not significantly influenced by the communication and change domain of teacher leadership of generation Y teachers in MRSM.	Failed to reject
Ho13c	Teacher Performance is not significantly influenced by diversity and instructional proficiency domain of teacher leadership of generation Y teachers in MRSM.	Rejected
Ho13d	Teacher Performance is not significantly influenced by organized and continuous improvement domain of teacher leadership of generation Y teachers in MRSM.	Rejected
Ho14a	Teacher Performance is not significantly influenced by participation domain of professional development of generation Y teachers in MRSM	Rejected
Ho14b	Teacher Performance is not significantly influenced by content and support domain of professional development of generation Y teachers in MRSM.	Rejected
Ho15	Professional development does not act as a mediator in the relationship between teacher leadership and teacher performance	Rejected

4.7 Conclusion of Research Findings

Based on the findings presented, the level of teacher leadership and teacher performance among the generation Y teachers in MRSM could be categorised as high. This meant that teachers had the values of teacher leadership though not at the very high level. They also described themselves as performing at a high level. However, the generation Y teachers' involvement in professional development was portrayed to be at the average level. This meant that the professional development programmes in MRSM may not be a key factor that drove the generation Y teachers to improve their performance. Maybe the implementation did not take into account the needs of the teachers in terms of participation, content and support. Out of the three domains of professional development, the barriers domain scored the least (mean = 1.92) reflecting that barriers domain was not a domain that would influence teachers' evaluation of professional development.

Analysis to compare the difference in the level of teacher leadership, professional development and teacher performance based on the demographic information such as gender, qualification and CGPA was also made. There seemed to be a difference in the level of teacher leadership, professional development and teacher performance based on the demographic qualification. This showed that generation Y MRSM teachers who graduated locally had different level of teacher leadership, professional development as well as teacher performance than those who graduated from universities abroad. For all three variables, the locally graduated generation Y teachers seemed to have a higher level of teacher leadership, professional development and teacher performance in contrast to the overseas graduates. As for the demographic gender, there seemed to be no difference in the level of teacher

leadership, professional development and teacher performance regardless whether the generation Y teachers were male or female. However, the finding showed a different result for the demographic CGPA whereby, there was a significant difference in teacher performance based on CGPA but no difference in the level of teacher leadership and professional development for that demographic.

Looking into the relationship between the variables, the findings showed the independent variable, teacher leadership had a significant and strong relationship with teacher performance for the direct relationship. All the four domains had a strong regression weight of 0.96, 0.91, 0.89 and 0.88. The inclusion of mediator (professional development) in the model had shown that the indirect relationship had a significant and strong correlation between teacher leadership and professional development and between professional development and teacher performance.

Based on the structural equation modelling, the result showed four domains of teacher leadership played the main influence in the relationship between teacher leadership and teacher performance. They were self-awareness, communication and change, diversity and instructional proficiency and organizational and continuous improvement. Nonethelss, only two domains of teacher leadership were significantly influencing teacher performance which were diversity and instructional proficiency and organized and continuous improvement. Only two domains of professional development significantly influenced the relationship between teacher leadership and teacher performance and they were participation and content & support.

Based on the findings above, it could be concluded that the final instruments produced after all the statistical analysis being performed for teacher leadership, professional development and teacher performance are as in table 4.25.

Table 4.25

Instrument for Teacher Leadership

Domain		Item
1 Self-awareness	TL1	I reflect upon my excellent work performance
	TL2	I always think of how to improve myself as a teacher
	TL3	At work, I behave in ways that are ethical and meet expectations for a high level of professional performance
2 Communication and change	TL4	I invite colleagues to work toward accomplishment of the vision and mission of the school
	TL5	I lead others in accomplishing tasks
	TL6	I involve colleagues when planning for change
	TL7	I work toward improving the culture of the school
	TL8	I am willing to spend time and effort building a team to improve my school
	TL9	When facilitating small groups I keep the group members on-task and on-time
3 Diversity and instructional	TL10	I understand the importance of school cuture to improve student outcomes
	TL11	I respect values and beliefs that may be different from

proficiency		mine
	TL12	I work efficiently with non-educators and persons with special interest
	TL13	I make special efforts to understand the beliefs and values of others
	TL14	I promote positive environment in the classroom
	TL15	I persist to assure the success of all students
	TL16	I am open to sharing with colleagues
	TL17	I act with integrity when working with students or adults
	TL18	I act with fairness when working with students or adults
4	TL19	I have a reputation for being competent in the classroom
Organized and	TL20	I set goals and monitor progress towards meeting them
continuous	TL21	I analyze and use assessment information when planning
improvement	TL22	I participate in professional development and learning
	TL23	I am proactive in identifying problems and working to solve them
	TL24	I work side-by-side with colleagues, parents and others to make improvements in the school or district
	TL25	I plan and schedule thoroughly so that i can accomplish tasks and goals
	TL26	I exhibit self-confidence when under stress or in difficult situations
	TL27	I work effectively as a team member

	TL28	I prioritize so that I can assure there is time for important tasks

The final instrument for professional development is as in table 4.26

Table 4.26

Instrument for professional development

Domain		Item
1 Participation	PD1	During the last 12 months, I participate in qualification programme
	PD2	During the last 12 months, I participate in a network of teachers formed specifically for the professional development of teachers
2 Content and support	PD3	During the last 12 months, I participate in mentoring and coaching as part of a formal school arrangement
	PD4	Professional development activities that I participated in during the last 12 months cover knowledge and understanding of my subject field
	PD5	Professional development activities that I participated in during the last 12 months cover pedagogical competencies in teaching my subject field
	PD6	Professional development activities that I participated in during the last 12 months cover student evaluation and assessment practices

PD7	Professional development activities that I participated in during the last 12 months cover ICT (information and communication technology) skills for teaching
PD8	Professional development activities that I participated in during the last 12 months cover student behaviour and classroom management
PD9	Professional development activities that I participated in during the last 12 months cover teaching cross-curricular skills (e.g. problem solving, learning-to-learn)
PD10	Professional development activities that I participated in during the last 12 months cover new technologies in the workplace
PD11	Professional development activities I took part in during the last 12 months have included collaborative learning activities or research with other teachers

While the final instrument for teacher performance is as in table 4.27.

Table 4.27

Instrument for Teacher Performance

Domain		Item
1 Planning and preparation for classroom	TP1	I demonstrate knowledge of content and pedagogy
	TP2	I demonstrate knowledge of students
	TP3	I demonstrate knowledge of resources

environment	TP4	I design coherent instruction
	TP5	I design student assessment
	TP6	I create an environment of respect and rapport in my classroom
	TP7	I establish a culture for learning in my classroom
	TP8	I manage classroom procedures before, during and after class
	TP9	I organize the classroom physical space
	TP10	I communicate with students
	TP11	I use questioning and discussion techniques
	TP12	I engage students in learning
2	TP13	I use assessment in instruction
Instruction	TP14	I maintain accurate records
3	TP15	I participate in professional community
Professional	TP16	I grow and develop professionally
responsibilities	TP17	I demonstrate professionalism in my work

These instruments had been proven to be reliable and valid in Malaysian setting to test for relationship and mediating effect among the variables teacher leadership, teacher performance and professional development for generation Y teachers yet limited to MRSM.

4.8 Summary

The discussion in this chapter was related to the findings of this research. Descriptive statistical analysis was provided. The first findings were on the level of teacher leadership and teacher performance among the generation Y teachers in MRSM. Second, the discussion centred on the difference in the level of teacher leadership, professional development and teacher performance based on the demographic aspects. Third, there was an effect of teacher leadership on teacher performance whereby teacher leadership influenced teacher performance. The inclusion of professional development in this model made it a mediator which enhanced the effect of teacher leadership towards teacher performance. Based on these findings as well, this study could determine the important domains of teacher leadership that may influence teacher performance. The study had also identified the important domains of professional development that mattered in mediating the relationship between teacher leadership and teacher performance.

CHAPTER FIVE
DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter discusses the findings reported in Chapter Four in detail. The writing will be presented in four sections namely research summary, discussion, implications of research and suggestions for future research.

5.2 Research Summary

This study was carried out with the purpose of analysing the mediating role of professional development in the relationship between teacher leadership and teacher performance among generation Y teachers in MRSM. The first research objective was to measure the level of teacher leadership, professional development and teacher performance of generation Y teachers in MRSM. Knowing the levels of these three variables, this study looked into the differences in the variables based on the demographic information which were gender, qualification (local or overseas graduate) and class of degree (CGPA). One step further, this study identified the relationship among the variables. To gain more from this research, analysis was made to identify the domains of teacher leadership and professional development which influence teacher performance the most. The final objective of this research was to determine whether professional development mediates the relationship between teacher leadership and teacher performance.

There were five research questions posed in this research. The first question was what is the level of teacher leadership, professional development and teacher

performance of generation Y teachers in MRSM? Secondly, is there any difference in the level of teacher leadership, professional development and teacher performance based on the demographic information namely gender, qualification and CGPA (class of degree) of generation Y teachers in MRSM was the second question. Third, is there any significant relationship between teacher leadership and teacher performance; teacher leadership and professional development; and professional development and teacher performance of generation Y teachers in MRSM? Fourth, what domains of teacher leadership and professional development influence teacher performance the most? The final question was does professional development mediate the relationship between teacher leadership and teacher performance?

This research applied the cross sectional design for the reason that data were gathered from groups of generation Y MRSM teachers from all over Malaysia at a certain time frame (Salkind, 2003). At present, the population of generation Y teachers in MRSM is 2941, working in 54 MRSM throughout Malaysia. Using stratified random sampling, 346 respondents should be the samples to represent the population (Krejcie & Morgan, 1970). Nonetheless, 350 respondents were selected based on the returned questionnaires.

The instruments applied measured the three variables. Teacher leadership was measured using the Teacher Leadership Self-Assessment by Katzenmeyer and Moller (2009) while Talis OECD Teaching and Learning International Survey (2013) was used to measure professional development. As far as teacher performance was concerned, it was measured using The Framework for Teaching Evaluation Instrument 2013 Edition by Charlotte Danielson (Danielson, 2013). This instrument

had undergone the translation process and been tested for its reliability and validity in a pilot study so as to ensure the accuracy of analysis.

The real study questionnaire had been distributed and the data collected were analysed. The descriptive findings of the study revealed that the level of teacher leadership among the generation Y teachers in MRSM was high at 4.16 (mean score). As for teacher performance, the level was also high (mean = 4.22). Nonetheless, the professional development could not be categorised as in the same boat since the mean score was 3.99 and this was considered as average.

In terms of differences in variables based on the demographic information, the independent *t*-test result showed no significant difference in the level of teacher leadership, professional development and teacher performance based on gender. However, the result demonstrated a case of significant difference in all the three variables when it comes to qualification. The mean score for local graduates was higher than the international graduates in terms of the level of teacher leadership, professional development and teacher performance. A mixed finding was the result for the demographic CGPA (class of degree). There was a significant difference in the level of teacher performance based on CGPA. The mean score for generation Y teachers who scored CGPA above 3.00 was higher than the mean score of Generation Y teachers who achieved CGPA below 3.00.

Using Structural Equation Modelling, relationships between the three variables were measured. The findings disclosed that there was a significant relationship between teacher leadership and teacher performance; teacher leadership and professional

development; and professional development and teacher performance. It was also important to find out what domain(s) of teacher leadership and professional development that influenced teacher performance the most. Based on the structural equation modeling, diversity and instructional proficiency domain was the most influential domain of teacher leadership for teacher performance followed closely by organized and continuous improvement domain. Two other domains (self-awareness domain and communication and change domain) were found to be insignificant. As for professional development, content and support domain had the most size effect of influence on teacher performance followed by participation. Finally, the findings also confirmed that professional development mediated the relationship between teacher leadership and teacher performance.

5.3 Discussion

In this discussion section, research findings would be deliberated based on the research questions that had been outlined.

5.3.1 Level of Teacher Leadership, Teacher Performance and Professional Development in Generation Y Teachers of MRSM

The level of teacher leadership among generation Y teachers of MRSM was high (mean: 4.16). They showed very high leadership values in the aspects of self-awareness; communication and change; diversity and instructional proficiency; and organized and continuous improvement.

For the first domain of teacher leadership, self-awareness among the generation Y teachers were apparent. Based on the response, the generation Y teachers

demonstrated awareness of the needs to show ethical and professional behaviour besides the interest to improve their performance as teachers. This meant that they were aware of their values, strengths and positive behaviours being teachers who wanted to perform better. This was in line with the characteristics of generation Y teachers outlined by Behrstock and Clifford (2009) stating that generation Y teachers tend to hold strong moral values. They elaborated that this particular group of teachers were highly educated and were educationally minded. They put priority on education and this was what drove them into the teaching world (Coggshall, et. al., 2011). With this conscience, they carried themselves accordingly and put effort to improve their skills in teaching.

The second domain was they had high communicational skills which were used to facilitate positive change. Quoting Behrstock and Clifford (2009),

> "*…they are eager for their work and to make a difference and contribute to a larger movement for positive change*."

Change is the only constant thing that happens in this world and having majority of the teacher population in MRSM to embrace change and be ready to face it should be an added value to the capacity of teaching resources. This was in agreement with a research by Killion (2017) which stated that factors facilitating teacher leadership are structural issues such as communication and being non-resistance to change. With excellent communicational skills, they should get involve, invite and lead others to participate in many school improvement programmes to enhance teacher performance which in return will increase the student performance.

When the mean score was high for the third domain, diversity and instructional proficiency, it meant that generation Y teachers in MRSM possessed professional knowledge and skills as well as diversity in implementing their core business which was to deliver knowledge and learning experience. To further elaborate on diversity, these generation Y teachers were able to work efficiently with others from different fields who had the interest in education. The National Education Association (2018) had outlined community and culture as as key elements of teacher leadership referring to teacher leaders working together in the community of teachers to diversify the culture of excellent teaching among these leaders. Looking at instructional proficiency, these teachers were said to promote positive learning environment by sharing with others the good practices and what they had done which brought impact on student achievement.

They had proven that they are organized and have high commitment for continuous self-improvement. Before they entered a classroom, they set goals and would be mindful in monitoring them so as to identify whether progress had been made towards meeting the goals. They plan and schedule thoroughly so that they could accomplish any tasks and goals. Should any problem arise, they would be proactive to identify the root of the problem and work to solve it. They were open to team work and would be willing to work side-by-side with colleagues, parents or other stakeholders in order to make improvements in the school. These are definitely the overarching competencies of teacher leaders as outlined by National Education Association (2018).

The findings had clearly supported the causal relationship among the trait leadership theory, behavioural leadership theory and situational approach to leadership. The generation Y teachers were described to have such traits and behaviours. With those characteristics and being in the working environment of MRSM, they would surely be able to work individually or working collaboratively to affect their colleagues, principals and everybody else in order to develop their teaching skills with the main objective of increasing student learning and performance. When the generation Y teachers portrayed authority in their teaching career such as having high instructional proficiency, showing positive values and interest in making students perform better and displaying constructive personality such as influencing peers to increase their performance, the distributed leadership theory is supported by this study.

The findings had supported the research by Berg, Carver and Mangin (2014) which showed that teacher leadership had become a crucial means for instructional improvement by proving that four domains of Teacher Leader Model Standards consisting of values such as communication, authority and continuous improvement among others, were of the essence for instructional improvement. These domains were also the high level of domains of teacher leadership among Generation Y teachers of MRSM. Lai and Cheung (2015) who found that capacitating teachers with teacher leadership gave the end result of teachers having practised the domains of teacher leadership like authority and continuous improvement which went along with the findings of this study.

The discovery of this study was such possibly due to the fact that there was awareness among the teachers that the roles and functions of teachers did not only

apply in classrooms but also beyond the school boundary. Their influence in making improvements in terms of student performance as well as colleague performance was very notable. All in all, the concept of teacher leadership once again was proven in this study when these Generation Y teachers, who may be just ordinary teachers, or they functioned as programme coordinators, heads of units, heads of departments or even the deputies of principal, were carrying out their duties in teaching with knowledge and skills and at the same time, having the zest to improve themselves and friends around them. With the leadership domains that they practised, they were able to lead other teachers to improve teacher performance which would bring to the end result, increase in student performance.

As far as the domains were concerned, this research had proven that teachers needed to adapt the domains in their teaching practice and the best domains would be teacher leadership domains. Self-awareness had been proven to be an important domain of being a teacher leader. It stemed from self-perception of each teacher (Hunzicker, 2017). Teachers must believe and be aware of their dispositions as classroom teacher leaders and so would carry out their role and responsibility beyond classroom and honourably serve the students in their school. Besides self-awareness, communication was a crucial aspect of a teacher's life. Being a teacher was all about imparting knowledge and experience so much so that students and colleagues may learn and develop themselves. With good communication, a teacher could convey what changes he or she would like to see in a school environment for the betterment of the students and school. School mission and vision could be disseminated through effective communication and this would bring about a positive learning ambiance.

Another essential domain of teacher leadership proven by this research was diversity and instructional proficiency. A teacher had to have the value of diversity in order to be more open to change or any creative ideas for student improvement. He/she should also increase instructional proficiency in order to become content experts which in return would improve his/her teaching skills and student performance. This domain was definitely being stressed by Valdez, Broin and Carroll (2015) in their report on a project of transforming teacher leadership to help students succeed.

Being organized and striving for continuous improvement had been proven to be important domains of teacher leadership. This value supported for effective teacher leaders. Understanding Cherkowski (2018), the findings of his research which was continuous improvement had been what mattered most to teachers, was in line with this research.

As for teacher performance, the level of teacher performance among the generation Y teachers of MRSM was considered high. With the Exploratory Factor Analysis and Confirmatory Factor Analysis being performed, three domains of performance were found to be relevant in this study. The domains were planning and preparation for classroom environment; instructions; and professional responsibilities with planning and preparation being at a very high level of teacher performance.

Teacher performance was about the standards of teaching. The planning and preparation for classroom environment domain reflected overall assessment of teaching process itself setting a conclusive standards for effective teaching performance. A fundamental aspect of planning and preparation was the curriculum

consideration. This included teachers' mastery of the curriculum standards which enabled them to design coherent instructions to be delivered and coherent assessment to test the student understanding of the delivery process. With the sound knowledge and understanding of the curriculum, teachers would demonstrate knowledge of resources. This foundation of teaching would assist the teachers to establish a conducive learning environment by managing the classroom well, creating a culture of learning and developing an environment of respect and rapport.

The findings supported the theory of performance (Don Elger, 2017) where teachers were involved in series of actions of teaching and learning session in order to produce worthwhile outcome. They planned and prepared for their classes and with this commitment, they delivered the teaching in a more effective manner.

The finding also revealed instruction domain to be of important in measuring teacher performance. When delivering instructions, assessment played a role to evaluate its effectiveness. Teachers had to maintain accurate records of the teaching and the assessment due to the fact that data helped to improve teaching through item analysis and other related intervention actions.

The final domain of teacher performance that was valid in this research was professional responsibilities. This domain revealed the generation Y teacchers to be involved in learning community and were always seeking for avenues to develop professionally. Since they were characterized as being highly educated and educationally minded, educational opportunities to develop themselves were most welcomed and that was commitment in terms of professional responsibilities. With

the evaluation of their performance, the findings showed teacher performance of Generation Y teachers in MRSM was high. As their performance increased, their levels of learning were deepened and not to mention, their skill development was also improved.

The findings of this research coincided with the findings of a study by Moss (2015) which looked into the evaluation system to improve instructional practice. The fact that evaluation of performance gave feedback, reflection and goal-setting helped to give a clear level of teacher performance and self-improvement. The components of teacher performance in this study were in accordance with the findings in a research by Reinhorn, Johnson and Simon (2017). Reinhorn et. al. (2017) had concluded that teachers' knowledge, positive working environment created by the teachers and commitment to professional responsibilities were parts of teacher performance evaluation.

The discovery of this study showed that there was a need for clear, effective aspects of teacher performance evaluation. The domain of planning and preparation for classroom environment evaluated the teacher performance in terms of their commitment in making sure that they knew what to teach, chose the most suitable way to teach and prepared the most effective teaching evaluation. While evaluating teachers under the domain of instruction revealed that teachers would develop their skills in teaching, be it in the form of content delivery as well as pedagogy. Based on the analysis of this study, the final domain of teacher performance which was professional responsibilities had been one of the significant domains to evaluate performance due to the fact that teachers needed to always show a high level of

professionalism. This was in agreement with the findings from a research by Skedsmo and Huber (2018) whereby the stress should be put on classroom organization and instructional support. Based on these elements of teacher performance evaluation, they found that these elements provide opportunities to develop teacher's professional responsibilities.

The level of professional development in this research was average (though the mean score is approaching high). This showed that professional development was happening in these educational institutions and was participated by these generation Y teachers. The confirmatory factor analysis performed on the instrument resulted in only two components to be valid for the professional development variable. The first one was participation and the second was content and support. The factor loading of these two components were high reflecting high relevancy of these domains to the professional development variable. This supported the theory of Change (Vogel, 2012) in the sense that the professional development programme in this study had gone through planning, implementation and evaluation stages from identifying the participants and their needs, the relevant content and the support that the participants needed and then implementing the programmes. Evaluation followed for effective outcomes.

Professional development program was a must-do-thing for teachers functioning as a training session to increase knowledge and skills of teachers (Darling-Hammond, Hyler & Gardner, 2017). Based on the findings of this study, these two important components have to be the main guidelines or principles when designing professional development programmes for educational organisation. This coincided with the

findings from a study by Boylan (2016) which stressed on the support participants needed in the process of being professionally developed. On the other hand, a study by Edwards, Sandoval and McNamara (2015) was abreast with the findings of this study in terms of the content of professional development programme being an important element in developing knowledge and skills of teachers.

The first domain of professional development, participation, reflectedd generation Y teachers attending professional development programmes to improve their knowledge and qualification as well as their networking in the educational realm. The reason why they participated in such programmes was because those programmes helped them to reflect on their practices, observe and practice new ways of teaching and to expand their networking (Sharma & Pandher, 2018).

The second domain involved the content and support for professional development. Based on the finding, generation Y teachers preferred for the content of professional development programmes to include knowledge and understanding of the subject matter, pedagogical competencies, student evaluation and assessment, information and communication technology skills for teaching, student behaviour and classroom management, skills of cross-curricular teaching, new technologies in the workplace, and collaborative learning activities.

This result, being at the level of average, may also lead to a generalization that the implementation of professional development programme in MRSM as a whole may not be effective enough leading these teachers to evaluate the programme at the average level. Maybe the implementation of this programme did not adhere to the

features of effective professional development (Darling-Hammond, Hyler & Gardner, 2017) and was being carried out as a task involving a one-day seminar or training with limited knowledge of what the teachers may benefit or do with the information from the programme (Masood Badri, et. al., 2016). The findings had outlined the important elements that should be taken into consideration when designing professional development programmes.

The level of professional development being at the average should be an eye-opener to school administrators to implement more effective development programmes due to the fact that professional development was core to improve teachers' abilities and expand teachers' interest. Sharma and Pandher (2018) had outlined several reasons why professional development for teachers should be implemented effectively.

1. Participating in professional development programmes would be a form of regular self-assessment and self-reflection for teachers. When they assessed and reflected on themselves, they would get insights into what they did and the effects of their actions. Reflections usually ignited change in teachers to perform better.
2. Exposing teachers to professional development would channel them to regular knowledge updating. Life-long learning was a necessity in the teaching profession.
3. Knowledge, skills and attitude of teachers needed to be nurtured. Attending workshops, seminars and short courses develop multiple skills in teachers. Teachers needed to learn so that they would remain effective in teaching.
4. Professional development encouraged inter-disciplinary collaborations. Inter-disciplinary referred to doing work in two or more disciplines, sub-disciplines

or professions by bringing together experts from different disciplines and incorporating them in their teaching.

Based on these reasons and the contents outlined by the findings of this research, better, more effective and relevant professional development programmes could be implemented.

5.3.2 Differences in Teacher Leadership, Professional Development and Teacher Performance in terms of Demographic Information

Three demographic aspects had been included in this study namely gender, qualification and CGPA (level of graduate). The researcher intended to analyse whether male teachers or female teachers had different level of teacher leadership, professional development and teacher performance. Qualification of generation Y teachers in MRSM was also being questioned about its role in the level of teacher leadership, professional development and teacher performance. Would it contribute to the difference in the level of these variables? Would generation Y teachers in MRSM who graduated from local universities have different level of teacher leadership, professional development and teacher performance in contrast to generation Y teachers who graduated from universities abroad? CGPA was the final demographic aspect that the researcher was interested to look into. Analysis was done to see whether generation Y teachers in MRSM who graduated with CGPA above 3.00 had different level of teacher leadership, professional development and teacher performance in comparison to the ones graduated with CGPA below 3.00.

Is there a significant difference in teacher leadership, professional development and teacher performance based on the demographic gender? This was the question for the three null hypotheses and the verdict showed that there was no significant difference

in those three variables based on gender. This demonstrated that there was no difference in the level of teacher leadership in female or in male generation Y teachers in MRSM. There was no difference in the level of professional development between these two genders and there was no difference in teacher performance looking at it from the perspective of male and female teachers of generation Y teachers in MRSM.

This discovery agreed with the findings of a study by Azhar Harun and friends (2016), which exhibited a high level of teacher leadership among the teachers of secondary schools in the east zone of Peninsular Malaysia regardless of the gender of the samples. There seemed to be no difference in the Laporan Tahunan 2015 (Kementerian Pendidikan Malaysia, 2015) regarding teacher performance in terms of gender where 95% of the teacher population was reported to have high level of quality in terms of their performance.

As for the demographic qualification, all the null hypotheses for teacher leadership, professional development and teacher performance were rejected. This indicated that there was a significant difference in the level of teacher leadership based on qualification. The findings were in accordance with the study by Cannon (2000) which found that graduates of international education were having more advantages than the local ones. Quah et. al. (2009) found that there was a difference in the working performance of oversea graduates and locally graduates. Nonetheless, this research found that locally graduated teachers were better than the oversea graduated teachers. The generation Y teachers in MRSM who graduated locally had a higher level of teacher leadership in comparison to the teachers who graduated from

universities abroad. The same condition was the result for the level of professional development based on the teachers' qualification. Those generation Y teachers in MRSM who graduated from the local universities had a higher mean score compared to the teachers who graduated from international universities. Referring to teacher performance, the same conclusion was made based on the findings. The level of teacher performance was higher for teachers who graduated from local universities in contrast to the ones who studied at international universities.

Surprisingly, locally graduated generation Y teachers in MRSM showed a higher level of teacher leadership, professional development and teacher performance. Looking at it from the aspect of qualification, this indicated that local universities produced better graduates because most local universities focused on knowledge, soft skills, hard skills as well as information technology besides specific competencies (Fernandez-Chung & Ching, 2018). Furthermore, Malaysian Government had taken tremendous initiatives in improving graduates from local universities such as adding industrial training, increasing English communication skills and some problem-solving skills courses for all upon graduating from local universities (Azmi, Hashim & Yusoff, 2018). Most probably, teachers graduating from local universities had a more intense knowledge with appropriate skills and this had helped them to perform better in their job. Actually, universities in Malaysia tended to teach students some skills at work. When one studied Educational Management at Universiti Utara Malaysia, one would learn Strategic Management because it was presumed that he/she would likely be managing a school in Malaysia (Universiti Utara Malaysia, 2016). In this way, when he/she becomes a school leader, he/she had grasped some skills in leadership. Suffice to suggest that qualification from local or overseas

universities should not be the top criteria when hiring teachers based on the findings of this research.

Finally is the demographic class of degree (CGPA). For this demography, differences were observed based on the teachers who graduated with CGPA above 3.00 and those with CGPA below 3.00. The findings revealed that there was no significant difference in teacher leadership based on CGPA above 3.00 or below 3.00. Meaning all teachers practised the domains of teacher leadership at a high level regardless of their class of degree. There was also no significant difference in the level of professional development based on class of degree. Nonetheless, an interesting findings signified there was a significant difference in the level of teacher performance when it came to the case of generation Y teachers with CGPA above 3.00 and generation Y teachers with CGPA below 3.00. Teachers graduated with CGPA above 3.00 had a higher level of performance in contrast to the once graduated with CGPA below 3.00.

Ng and Feldman (2009) confirmed the findings in their research where higher education performance positively influenced job behaviors specifically core task performance. Faith (2014) had recorded the same findings where employee high academic qualification had positively influenced employee job performance. The findings were also in accordance with the decision made by the Teacher Training Institute (IPG), Malaysia to maintain the strict admission requirements for IPG to strengthen teacher quality in terms of their performance (Kementerian Pendidikan Malaysia, 2015). The admissions requirement was set at the level of obtaining at least 7As in the Malaysian Certificate of Examination (SPM) so as to ensure these

future teachers graduated excellently from their classes and thus perform as better teachers. Based on the findings, graduates with better class of degree should be given priority and taken into consideration when recruiting teachers.

5.3.3 Relationships among Teacher Leadership, Professional Development and Teacher Performance

Based on the Structural Equation Modelling, the finding strongly showed a relationship between teacher leadership and teacher performance. Statistically, for an increase in the level of teacher leadership among teachers, there would be an increase in the level of teacher performance. The interpretation was teachers who practised the domains of teacher leadership would take actions based on these existing domains when they performed their duties. It meant that they would be aware of the values, philosophy and behaviours required of excellent teachers. They would deliver content and skills to students effectively and make sure that they are focused on teaching and learning. They also had in them the interest to continuously improve themselves and their colleagues in terms of expanding knowledge, communication skills and instructions, and this in the end would result in increased teacher performance. In a nut shell, teacher leadership should be inculcated in all the teachers so as to ensure that teacher performance could be increased.

The finding agreed with a research by Bastian et. al. (2017) which stated that teachers who performed highly in schools had the traits of high level of exactitude in delivering their professional responsibilities. The findings were also in accordance with a study on the characteristics of a good EFL teacher by Al-Mahrooqi et. al. (2015). According to Al-Mahrooqi et. al. (2015), the domains of instructional competency, positive personality and being able to collaborate were characteristics

that produced teachers with good performance. Those characteristics were values of teacher leadership and those teachers performed when they practise such domains in themselves. Teacher leader role should be part of any education system and this role should be included in any educational programmes to increase teacher performance.

The connection between teacher leadership and teacher performance was distinctively wrapped up in a bundle of relationship by Steven Farr (2010) in his book. Teachers with domains of leadership should first set big goals. In order to do so, these teachers should reflect on where their students were performing at the beginning of the year. With that information, they would develop an ambitious and inspiring vision of where their students would be at the end of the year. Informed by that vision (big goals), these teacher leaders would work towards reaching those goals making a meaningful impact on students' performance--reflecting teacher performance. This was the domain of awareness in teacher leadership and how it was related to the planning and preparation for classroom environment domain in teacher performance.

From that point, effective teacher leaders would invest students in working hard for extraordinary academic achievement. They would plan purposefully and execute their plan effectively. Based on the domains of teacher leaders, from every lessons to long-term plans and classroom management plans, these teachers would take every action (large and small) because each action contributed to the goal of student learning. These teachers were displaying the characteristics of the domain of communication and change in teacher leadership whereby they communicated with

students convincing their students if they worked hard enough, doing so would make a real difference in their lives.

Farr (2010) continued with highly effective teacher leaders would master every elemental tasks of teaching, monitoring their progress and adjusting course in the case of any changes in the world of education. This meant that teacher leaders had practised the domain of diversity and instructional proficiency and this was related to the instructional domain of teacher performance. Surprisingly, these teacher leaders did not stop there. They would continuously increase their effectiveness because they were aware of their professional responsibilities in order to perform exceptionally.

The SEM analysis also revealed an existence in the relationship between teacher leadership and professional development. The coefficient value confirmed that with an increase in the level of teacher leadership, there would be an increase in the level of professional development. This could be explained by the domain of organized and continuous improvement in teacher leadership where this domain showed that teachers demonstrated commitment to achieving higher standards in terms of knowledge and skills and they were ready to get into action for self-improvement. When this was present, teachers would want to join any professional development programmes designed to improve their performance. When they perceived themselves as consistently on a professional learning curve and engaging in continuous action research programmes to increase their effectiveness, they would definitely participate in professional development programmes.

This was in agreement with a study by Sugg (2013) on the relationship between teacher leadership and student achievement. She found that teachers with leadership skills wanted to improve their professionalism and thus showed commitment towards professional development programmes which in return improved performance. Not only that, the confirmed relationship between teacher leadership and professional development was in accordance with a research by Davignon (2016). Davignon focused his study on novice teachers in the hope of retaining them. Applying teacher leadership domains in the professional development programme for these novice teachers had resulted in these teachers having the value of trust to stay on. In addition, teacher leadership domains were inculcated in these teachers after they had experienced professional development programme.

The researcher was also looking at this relationship from the aspect of the characteristics of the generation Y teachers. Mokoena (2012) explained that generation Y teachers were highly educated and educationally minded. They were constantly on the go to gain more knowledge to improve themselves. This characteristic was driving the domain of organized and continuous improvement for them to participate in professional development.

The final findings in terms of relationship between variables was the relationship between professional development and teacher performance. For every increment in the level of professional development there would be an increase in teacher performance. This was to say that when teachers attended professional development programmes, their knowledge and skills increased. They would be able to enhance

the effectiveness of their teaching when they were better equipped. When their teaching was effective, the students would perform better (Oracion, 2014).

This discovery was in line with Firestone (2014) when his study stated that professional development which was a form of intrinsic incentive had challenged teachers intellectually and had invited teachers to collaborate. In return, teacher performance had increased. The findings were also in agreement with Yendol-Hoppey and Dana (2010) when they found that professional development increased self-confidence of the teachers involved. With self-confidence, they delivered better and this led to better performance.

Professional development process made a difference in teacher performance. Baker et. al. (2017) made a conclusion as to how professional development could make a difference in the performance of teachers in the facet of reflection. Growing reflective practice from professional development would coerce teachers to constantly contemplate on their teaching performance from planning to implementing and evaluating making them better teacher leaders.

5.3.4 Influence of Domains of Teacher Leadership and Professional Development on Teacher Performance

This research would like to identify whether teacher performance was influenced by the domains of teacher leadership and professional development. Based on the results of structural equation modeling, it was undeniable that domains of teacher leadership influenced teacher performance. The influence of each domain differed which signified that some domains of teacher leadership played a more significant role in influencing teacher performance. In this study, generation Y teachers' diversity and

instructional proficiency domain and organized and continuous improvement domain had strong and significant influence on their performance. Their instructional proficiency had influenced their performance. Their intention for continuous improvement had an influence of teacher leadership on teacher performance. This being the case, the most important value that should exist in a teacher upon joining the profession was to improve on their instructional proficiency and organizational skills (Crowther, Ferguson & Hann, 2009).

As for the domains of professional development, barriers seemed to have no influence on teacher performance. This meant, generation Y teachers participated in professional development in order to gain better knowledge regarding their teaching content but their participation was on average scale due to the fact that all domains of professional development reflected not a strong influence on teacher performance. For the administration of educational institution, three aspects of professional development that should be taken into consideration when drafting professional development activities would be participation of members, relevant and required content and the support from the administration and peers alike. Although these three aspects were showing menial effect on teacher performance, they should be taken into consideration when designing professional development programmes for the teachers. Some unavoidable barriers that might exist throughout the implementation of professional development should not deter the implementation of such programmes.

Scrutinizing the implementation of professional development in MARA and MRSM as a whole, more focus should be placed on the content of the programme especially

for the generation Y teachers who occupied 83.4% of the teacher population in MRSM. *Institut Latihan Kecemerlangan MARA* (ILKM), the body responsible for planning and executing professional development programmes for MARA working staff as a whole and MRSM teachers as well focus on talent development, competency development and some value-added programmes. Competency development is a functional programme which does not cater to the needs of all MRSM teachers. Actions should be taken at the college level to implement more robust professional development programmes that meet the needs of these generation Y teachers. Based on the finding of the research, professional development programmes should include content for subject matter in order to develop the teachers' knowledge. Pedagogical competencies, evaluation and assessment practices, information and communication technology, student behaviour and classroom management as well as skills to collaborate with others are other recommended elements that should not be left out.

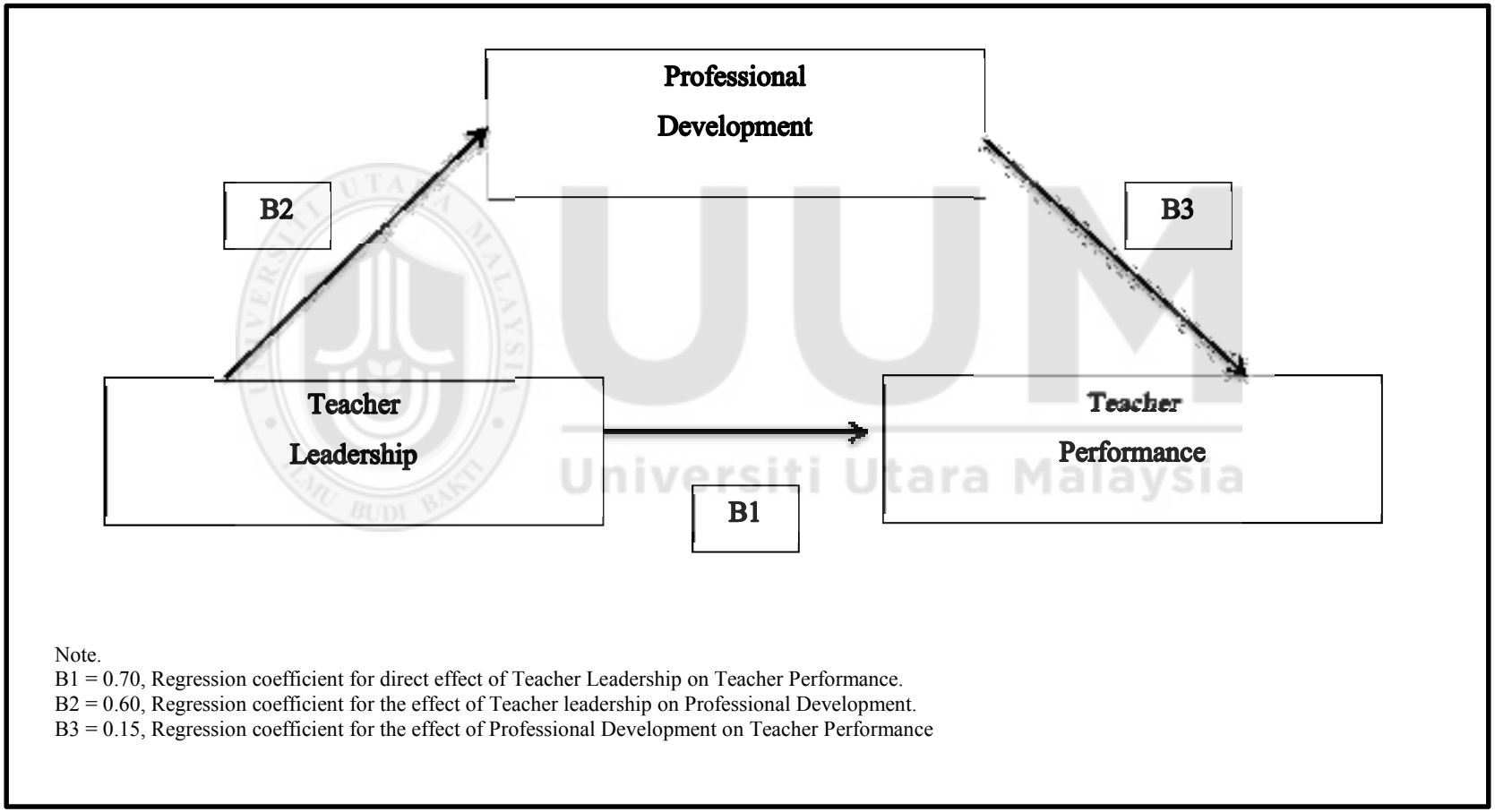
Implementation of such programmes should also be be executed in a more organized and effective manner. One aspect of professional development that has been overlooked is the evaluation of implementation of professional development. Kutner, Sherman, Tibbetts and Condelli (1997) describe the evaluation of professional development programmes in the house now is more of "happiness quotient" where participants give their reactions to a specific professional development activity upon its completion. Guskey (2016) has been sharing an evaluation framework that should give five (5) levels of data in order for the evaluation to be effective. The levels are participants' reactions, participants' learning, organizational support and change, participants' use of knowledge and skills and student learning outcome. The data

gathered at each level would provide vital information for improving the quality of professional learning.

5.3.5 Mediating Role of Professional Development in the Relationship between Teacher Leadership and Teacher Performance

A question is posed as to what makes a relationship stronger. A mediator usually plays the role. When the variable professional development was included in the model, the statistical analysis still showed a significant indirect effect of teacher leadership to teacher performance through the mediator, professional development. Based on the result, the mediation that had occurred in the statistical analysis was a partial mediation.

The findings were confirmed based on the description of mediation by Rucker, Preacher, Tormala and Petty (2011). They have underlined several requirements that should be met in order to confirm whether a mediator was perfectly, completely, fully mediating or partially mediating. Undeniably, the findings of this study had met the partial mediation condition. Thus, figure 5.1 showed the mediation model for this study.



Note.
B1 = 0.70, Regression coefficient for direct effect of Teacher Leadership on Teacher Performance.
B2 = 0.60, Regression coefficient for the effect of Teacher leadership on Professional Development.
B3 = 0.15, Regression coefficient for the effect of Professional Development on Teacher Performance

Figure 5.1. *Teacher Leadership, Teacher Performance and Professional Development: A Mediation Model*

Mediation helped to explain the mechanism through which an intervention influences an outcome and assumes both causal and temporal relations (Gunzler, Chen, Wu & Zhang, 2013). This helps to provide a focus for future intervention programmes to improve teacher performance so that more efficacious and cost-efficient alternative intervention actions may be developed.

5.4 Implications of Research

Implications of research are presented in two aspects namely theoretical implications and practice implications.

5.4.1 Theoretical Implications

Academically, the findings from this study is appropriate and relevant to the theories discussed. Overall, the validity and reliability testing performed during the pilot study are satisfactory. Exploratory Factor Analysis was executed with the aim of reducing and regrouping the items of each variable for the instrument making it to be more credible and reliable. Since the instrument was adapted from international scholars, translation process was carried out according to strict procedures so as to ensure the meanings come through and are not lost throughout the process. Confirmatory Factor Analysis was carried out with the same intention of securing the accuracy of analysis being performed. Hence, this aspect of the study has ensured that instruments taken from international studies can be applied in the contexts of local society provided that certain measures to adapt to the situation and culture of the Malaysian Society have been taken.

This research also contributes to the theories applied in this study. The distributed leadership theory for one is the theory that describes teacher leadership. Based on the finding of the research, the teacher leadership level among the teachers was high and this confers to the values that have been outlined by the distributed leadership theory for teacher leadership. When teachers have leadership values, they perform better. Then, theory of performance comes into the picture where the three principles of theory of performance are adhered when the level of teacher performance is high.

The finding of the research reveals that the increase in teacher leadership will increase the level of teacher performance. The components of teacher leadership that had been reduced to the last four showed the most important values for teacher leadership that should be inculcated in all the teachers. These values should be included in orientation programme for new teachers as well as reorientation programme of complacent teachers so much so that there will be awareness and consciousness among teachers of their responsibilities. With the comprehension of how these values function, teachers will carry out their responsibilities to the best of their ability. This will end up in high level of teacher performance.

Criteria to evaluate teacher performance have been identified based on the final domains of teacher performance instrument. These domains should be taken into consideration or as guidelines to design or improve evaluation standards for teachers in Malaysia among other components for evaluation which are in existence.

The causal effect between teacher leadership and teacher performance could be enhanced with the inclusion of professional development programmes into the

picture. Values of teacher leadership being topped up with effective implementation of professional development programmes will boost the level of teacher performance further. Knowing the important domains of professional development, programmes could be designed to make professional development activities more meaningful and at the same time achieving their objectives.

5.4.2 Practical Implications

The result of this research contributes to the treasure of knowledge regarding teacher leadership, teacher performance as well as professional development. Researches are not yet abundance in Malaysia in terms of teacher leadership and teacher performance, what more of professional development. Such contribution can be observed from the aspect of each variable. There are four important components of teacher leadership and the components can be defined as values of teacher leadership. For policy makers such as Kementerian Pendidikan Malaysia or The Secondary Education Division, MARA, these values should always be stressed upon when dealing with teachers due to the fact that they drive the performance of the teachers. Teachers should have self-awareness that they are the most important person in making changes in student performance as well as teacher performance. They should always involve themselves in continuous learning programme and improve their communication skills. These values should be included when designing teachers' ethics making them as guidelines on how to carry themselves as superb teachers making fantastic changes to the schools as well as to the student performance.

Recruitment of teachers should be based on these teacher leadership domains which could be taken as guidelines. By including these domains, administration will be able to identify highly committed candidates who would really want to be a teacher and those who want to be a teacher not by their interest but because there is no option. This research has also proven that teachers graduating from local universities have higher level of teacher leadership, professional development and teacher performance in contrast to teachers who graduated from international universities. This could be a platform for school administrators or human resource department to choose more from local graduate candidates due to the finding that local graduates will make better teachers than the opposite counterpart.

As far as professional development is concerned, since it is proven that professional development mediates the relationship between teacher leadership and teacher performance, Bahagian Pendidikan Guru, Kementerian Pendidikan Malaysia and Institut Latihan dan Kemahiran MARA (ILKM) should design, implement and evaluate the programmes so as to make sure that it is effective and becomes the stepping stone for the teachers to develop themselves. Participation of teachers should be comprehensive covering all teachers because everybody needs extra motivation to be better. The content of the professional development programmes should be designed based on the needs of the teachers and are implemented effectively, not just by having them as a one day course and teachers do not know what to do with the materials that they get from the professional development programme. It is time for educational policy makers to take professional development of the teachers seriously.

As for teacher performance, the result of this study could be taken as the guideline to design evaluation standards for teaching practice. For self-evaluation purposes, teachers could perform a self-check on the effectiveness of their teaching by making sure that they ace the domains and to re-evaluate themselves from time to time. The three domains of teacher performance could be a soft reminder for teachers of what they should be focusing on.

Practising teachers could take the result of this study as a whole in developing themselves to be wholesome teachers. They should forever make sure that they carry themselves as teacher leaders because this will improve their performance. All the while, they should make sure that they participate actively and effectively in professional development programmes for the reason that this could make the teacher in them are of greater essence.

5.5 Suggestions for Future Research

Based on the finding of this study, suggestions for future research would be improvement in the aspects of research model, research methodology and maybe other additional variables that are relevant to the relationship being discussed. This research has identified components of teacher leadership, professional development and teacher performance that matter in teaching profession. Future research could look into these components based on other demographic information such as based on the programmes offered in such schools, whether the programme has made a difference or not. Other demographic aspect such as the position of schools (rural or urban area) could be utilized to see whether the differences would exist or not.

Other interesting variables that should be taken into consideration when discussing teacher leadership, professional development or teacher performance are organizational climate or organizational culture. All these three variables discussed in this research exist in an educational organization. Its climate or culture should play a significant role in enhancing the effect that these variables have on one another. Professional development being implemented in a more effective, interesting and relevant manner to the teachers may increase teacher motivation. Thus it is suggested that professional development is discussed based on its effect on motivation.

Other than that, the use of more effective method such as applying qualitative study to this research is said to be another option of looking at the issue in a better way for studying behaviour. Such research would be important for Human Resource Division as well as other stakeholders such as Kementerian Pendidikan Malaysia, the Secondary Education Division of MARA or even any private sectors which are involved in education. Researches on teacher leadership, teacher performance as well as professional development are hoped to be able to unearth the secrets of quality teachers in education.

5.6 Summary

The discussion in this chapter has covered the findings of this study by relating the significant discovery to previous researches and the theoretical aspects of it. Firstly, it is undeniable that teacher leadership plays a substantial role in school leadership and the importance of this role can be observed in teacher performance. The professional development variable also plays an imperative influence in this relationship. Secondly, the existence of significant difference in the level of teacher

leadership, teacher performance and professional development based on the demographic information of the teachers' level of graduate is something to be pondered upon.

Thirdly, there is a significant effect of teacher leadership on teacher performance. The finding also shows a significant effect of teacher leadership on professional development and of professional development on teacher performance. The study confirms the function of professional development as a partial mediator in the relationship between teacher leadership and teacher performance.

This study has identified the domains that matter for each variable. They are diversity and instructional proficiency; and organized and continuous improvement for teacher leadership. Two domains for professional development are participation and content and support while three domains for teacher performance are planning and preparation for classroom environment; instruction; and professional responsibilities. Finally, this chapter has discussed in details of findings and its implications in terms of theory and practice. Suggestions for future research are also provided.

All in all, this discussion has led to a suggestion of an excellent school requirements as in Figure 5.2. The suggestion starts with teachers at the base being the core constituent of an education institution. Of Course, the school principal as the head of the school will be the number one important person to lead the school to fame. Nonetheless, this one leader will not be able to navigate the ship alone. The teachers are the corpus of a school. They go into classrooms and deliver content to students.

In doing so, this study has identified four domains that should be manifested in each of the teachers so that they can perform their ultimate tasks more excellently. These domains could be accepted as the guidelines for teachers to excel.

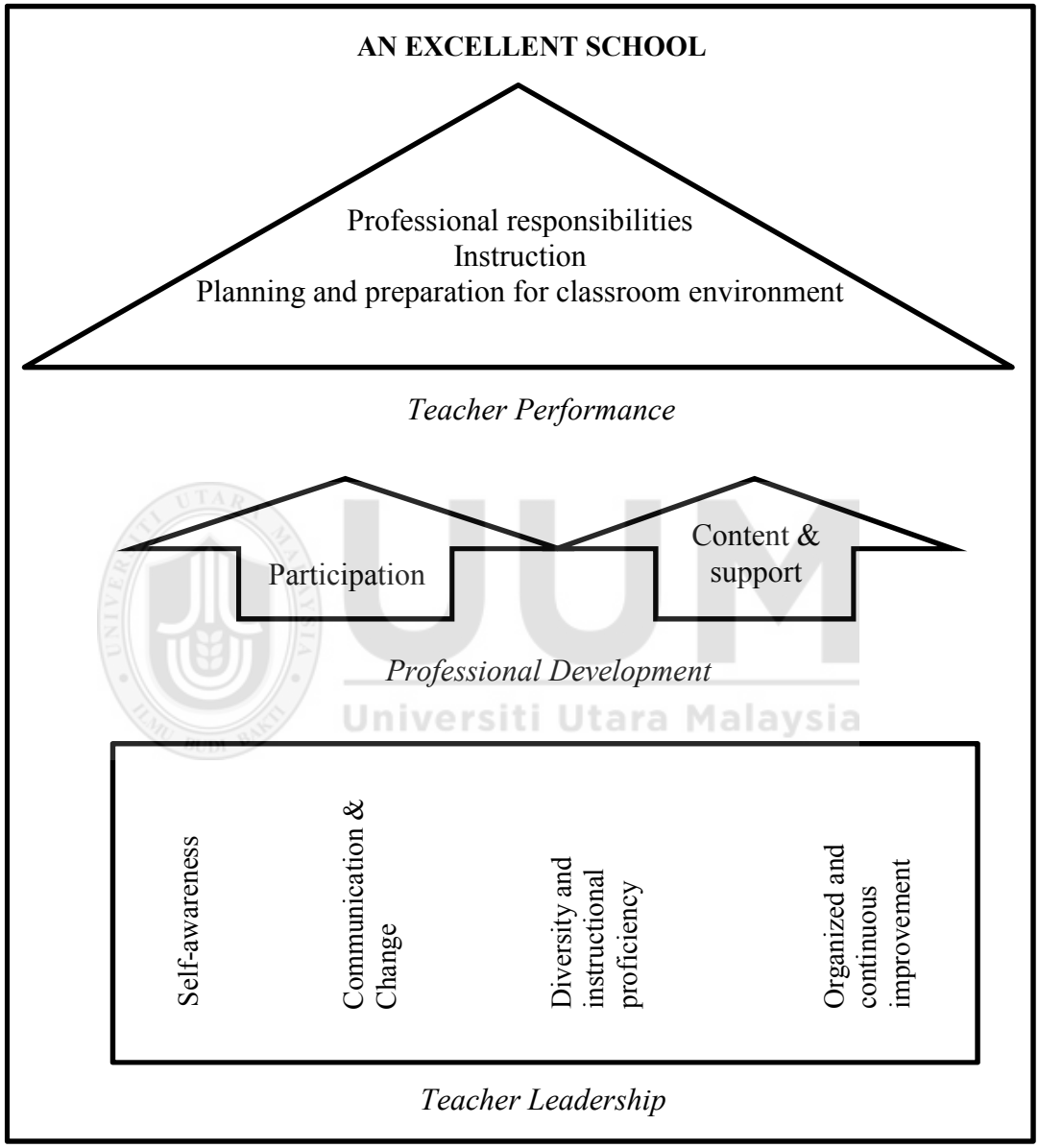


Figure 5.2. An Excellent School Requirements

However, domains of teacher leadership are not innate. Here is where professional development plays its role in this excellent school requirements. Professional development is a must. Well planned and effective implementation of professional

development will contribute as an effective intervention to an ongoing manifestation of teacher leaders. Teachers' participation in professional development should be inclusive of everybody and the content of professional development programmes should be relevant to and needed by the teachers. Through these programmes, teacher leaders will work to improve their performance and later to work with other teachers so as to ensure that each and every teacher in the school will be influenced to be teacher leaders. If such situation exists, the teacher performance will be increased in terms of their professional responsibilities, instruction and planning and preparation for classrooms. And the end product will be an excellent school.

REFERENCE

Ab. Aziz Yusof. (2008). *Penilaian prestasi dari perspektif pengurusan sumber manusia*. Sintok: Universiti Utara Malaysia.

Abdull Sukor Shaari. (2008). *Guru berkesan: Petua dan panduan*. Sintok: Universiti Utara Malaysia.

Ada, S., Tuti, G., & Tabriz, S. M. (2015). An alternative method for professional development of teachers: Mentoring. *Jokull Journal, 65*(6), 101-112.

Akert, N. I. (2009). *The perceptions of teachers and principals in regard to teacher leadership and school improvement* (Unpublished doctoral dissertation). University of Missouri-Columbia, USA.

Alias Baba (1997). *Statistik Penyelidikan dalam Pendidikan dan Sains Sosial*. Bangi: Universiti Kebangsaan Malaysia

Allen, L. Q. (2018). Teacher leadership and the advancement of teacher agency. *Foreign Language Annals, 51*, 240-250.

Alvi, M. H. (2016). A manual for selecting sampling techniques in research. Retrieved from https://mpra.ub.uni-muenchen.de/70218/

Angelle, P. S., & DeHart, C. A. (2011). Teacher perceptions of teacher leadership: Examining differences by experience, degree, and position. *NASSP Buletin, 95* (2), 141-160.

Archibald, S., Coggshall, J. G., Croft, A., & Goe, L. (2011). *High-quality professional development for all teachers: Effectively allocating resources* (Research & Policy Brief for National Comprehensive Center for Teacher Quality). Retrieved from www.gtlcenter.org/sites/default/files/docs/HighQualityProfessional Development.pdf

ASCD's Whole Child Initiative. (2014). *Teacher leadership*. Retrieved from www.ascd.org

Azhar Harun, Ramli Basri, Zaidatol Akmaliah Lope Pehei, & Soaib Asimiran. (2016). Amalan kepimpinan guru di sekolah menengah zon timur Semenanjung Malaysia. *Jurnal Kepimpinan Pendidikan, 3*(4), 1-24.

Azmi, I. A. G., Hashim, R. C., & Yusoff, Y. M. (2018). The Employability Skills of Malaysian University Students. International Journal of Modern Trends in Social Sciences, 1(3), 01–14.

Bahagian Pendidikan Guru. (2009). *Standard Guru Malaysia*. Putrajaya: Kementerian Pelajaran Malaysia.

Bahagian Sumber Manusia MARA. (2019). Iklan Jawatan Kosong Guru MRSM MARA. Retrieved from https://semakanonline.com/jawatan-kosong-guru-mrsm-mara/

Bailey, K. D. (1994). *Methods of social research* (4th ed.). New York: The Free Press.

Baker, J., Chaseling, M., Boyd, W., & Shipway, B. (2017). Teachers' response to a new mandatory professional development process: Does it make a difference?. *Professional Development in Education*. 1-13.

Bandura, A. (1986). *Social foundations of thought and action: A social-cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator distinction in social psychological research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Barry, B., Daughtrey, A., & Wieder, A. (2010). Teacher leadership: Leading the way to effective teaching and learning. *Center for Teaching Quality*. Retrieved from https://www.teachingquality.org/content/teacher-leadership-leading-way-effective-teaching-and-learning

Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: The Free Press.

Bastian, K.C., McCord, D. M., Marks, J.T., & Carpenter, D. (2017). A temperament for teaching? Associations between personality traits and beginning teacher performance and retention. *AERA Open, 3*(1), 1-17.

Bautista, A., Toh, G., & Wong, J. (2016). Primary school music teachers' professional development motivations, needs, and preferences: Does specialization make a difference?. *Musicae Scientiae*, 1-28.

Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., Skolits, G. J., & Esquivel, S. L. (2013). Practical considerations for using exploratory factor analysis in educational research. *Practical assessment, research & evaluation. 18*(6), 1-13.

Behrstock, E, & Clifford, M. (2009). *Leading gen Y teachers: Emerging strategies for school leaders*. Washington, DC: National Comprehensive Center for Teacher Quality.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238-246.

Berg, I. (1970). *Education for jobs: The great training robbery*. New York: Praeger Publishers.

Berg, J. H., Carver, C. L., & Mangin, M. M. (2014). Teacher leader model standards: Implications for preparation, policy and practice. *Journal of Research on Leadership Education, 9*(2), 195-217.

Black, T. R. (1999). *Doing Quantitative Research in the Social Sciences*. London: Sage Publications Ltd.

Bolden, Richard. (2011). Distributed leadership in organizations: A review of theory and research. *International Journal of Management Reviews, 13*, 251-269.

Bond, Nathan. (Ed.). (2015). *The power of teacher leaders*. Indiana: Kappa Delta Pi.

Borg, S., Clifford, I., & Htut, K. P. (2018). Having an EfECT: Professional development for teacher educators in Myanmar. *Teaching and Teacher Education, 72*, 75-86.

Bourke, T., Lidstone, J., & Ryan, M. (2013). Teachers performing professionalism: A Foucauldian archaeology. *SAGE Open*, 1-14.

Boyle, B., Lamprianou, I., & Boyle, T. (2005). A longitudinal study of teacher change: what makes professional development effective? Report of the second year of study. *School Effectiveness and School Improvement, 16*(1), 1-27.

Boylan, M. (2016). Enabling adaptive system leadership: Teachers leading professional development. *Educational Management Administration & Leadership*, 1-12.

Bredeson, P. V. (2017). The school principal's role in teacher professional development. *Journal of In-Service Education, 26*(2), 385-401.

Brill, S., & McCartney, A. (2008). Stopping the revolving door: Increasing teacher retention. *Politics and policy, 36*(5), 750-774.

Broad, K., & Evans, M. (2006). *A review of literature on professional development content and delivery modes for experienced teachers* (Report for Ontario Ministry of Education). Retrieved from https://www.oise.utoronto.ca/ite/UserFiles/File/AReviewofLiteratureonPD.pdf

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. Sociological Methods & Research, 21(2), 230-258.

Bush, T. (2009). Editorial: Assessing teacher performance. *Educational Management Administration & Leadership, 37*(6), 731-734.

Bussel, J. V., Justice, S., Bang, A., & Damiron-Alcantara, A. (2018). Team leaders' beliefs about teachers' learning-path strategies. *Journal of Workplace Learning, 20*(5), 351-363.

Campos-Garcia, I., & Zuniga-Vicente, J. A. (2018). The impact of a leader's demographic and professional characteristics on employee motivation: Do they

really matter?. *Employee Relations*. Retrieved from https://doi.org/10.1108/ER-10-2017-0253

Cannon, R. (2000). The outcomes of an international education for Indonesian graduates: The third place?. *Higher Education Research & Development, 19*(3), 357-379.

Carter, J. (2018). *A qualitative study of teacher leadership in secondary schools in central Missouri* (Doctoral dissertation). Retrieved from https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/66369/research.pdf?sequence=1&isAllowed=y

Carver, C. L. (2016). Transforming identities: The transition from teacher to leader during teacher leader preparation. *Journal of Research on Leadership Education, 11*(2), 158-180.

Catholic Education Commission of Victoria, Evaluation Case Study. (2014). *Enhancing teacher leadership through targeted professional development*. Retrieved from www.phillipskpa.com.au

Center for Strengthening the Teaching Profession. (2009). *Teacher Leadership Skills Framework*. Retrieved from http://cstp-wa.org/teacher-leadership/teacher-leadership-skills-framework/

Chee, C. S., & San, O. P. (2008). *Exploring professional development for educators*. Singapore: Cengage Learning Asia Pte Ltd.

Cheng, A. Y. N., & Szeto, E. (2016). Teacher leadership development and principal facilitation: Novice teachers' perspectives. *Teaching and Teacher Education*, 58, 140-148.

Cjaza, R. (1998). Questionnaire pretesting comes of age. *Marketing Bulletin*, 52-66.

Coggins, C., & McGovern, K. (2014). Five goals for teacher leadership. *Kappanmagazine.org, 95*(70), 15-21.

Cochran, W. G. (1977). *Sampling Techniques* (3rd ed.). Canada: John Wiley & Sons, Inc.

Cohen, J. (1988). Statistical power analysis for the behavioral Sciences (2nd ed.). New Jersey: Erlbaum.

Cohen, J., & Goldhaber, D. (2016). Building a more complete understanding of teacher evaluation using classroom observations. *Educational Researcher, 45*(6), 378-387.

Conley, S., & Muncey, D. (1999). Teacher talks about teaming and leadership in their work. *Theory into Practice, 38*(1), 46.

Connelly, L. M. (2008). Pilot studies. *Medsurg Nursing, 17*(6), 411-412.

Coopers, P. H. W. (2012). *Millenials at work: Reshaping the workforce*. Malaysia: PWC.

Costello, A. B., & Osborne, J.W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical assessment, research & evaluation, 10* (7), 1-9.

Cotteleer, M., & Sniderman, B. (2017). Forces of Change: Industry 4.0. Deloitte Development LLC. Retrieved from https://www2.deloitte.com/content/dam/insights/us/articles/4323_Forces -of-change/

Danielson, C. (1996). *Enhancing professional practise: A framework for teaching*. Virginia: Association for Supervsion and Curriculum Development.

Danielson, C. (2011). Evaluations that help teachers learn. *The Effective Educator, 68*(4), 35-39.

Danielson, C. (2013). *Rubrics from the framework for teaching: Evaluation instrument* (23rd ed.). Retrieved from http://www.ode.state.or.us/wma/teachlearn/commoncore/danielson-2013-rubric-only.pdf

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. *Journal of Research in Science Teaching, 49*(8), 987-1011.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Educational Policy Analysis Archives*, *8*(1), 1-44.

Darling-Hammond, L. (2010). *Evaluating teacher effectiveness: How teacher performance assessments can measure and improve teaching*. Retrieved from https://scale.standford.edu/system/files/teacher_effectiveness.pdf

Davignon, M.M. (2016). *New teachers' perceptions of teacher leaders: Trust in the educational setting* (Doctoral dissertation). Retrieved from https://academicarchive.snhu.edu/handle/10474/2634

Davis, G. A., & Thomas, M. A. (1989). *Effective schools and effective teachers*. Massachusetts: Allyn and Bacon.

Dee, T., & Wyckoff, J. (2013). *Incentives, selection, and teacher performance: Evidence from IMPACT* (Working Paper No. 19529). Retrieved from http://www.nber.org/papers/w19529

DeMonte, J. (2013). *High-quality professional development for teachers* (Report for Center for American Progress). Retrieved from https://www.americanprogress.org/wp-content/uploads/2013/07/DeMonteLearning4Teachers-1.pdf

DeVellis, R. F. (2012). *Scale development: Theory and applications*. Los Angeles: Sage.

Donley, H. E., Everhart, J. J., Freeman, G. E., Koontz, H. S., Wagner, W. E., & Wilson, J. F. (1989). *U.S. Patent No. 4, 831,493*. Washington, DC: U.S. Patent and trademark office.

Dorph, G. Z., & Holtz, B. W. (2000). Professional development for teachers: Why doesn't the model change?. *Journal of Jewish Education*, 66, 1-12.

Dunlap, K., & Hansen-Thomas, H. (2011). Taking the reins: Preservice teachers practicing leadership. *Educational Horizons, 90*(1), 21-24.

Donnie Adams, Syafizza Norida A. Samat, & Humamuddin Abu Samah. Teacher leadership: Going beyond Classroom [Editorial]. (2018). *International Online Journal of Educational Leadership, 2*(1), 1-3.

Edwards, A. R., Sandoval, C., & McNamara, H. (2015). Designing for improvement in professional development for community college developmental mathematics faculty. *Journal of Teacher Education, 66*(5), 466-481.

Elger, D. (2017). *Theory of Performance*. Unpublished manuscript, University of Idaho, United States of America.

Elmore, R. F. (1996). Building a new structure for school leadership. *American Educator*. Retrieved from https://www.gse.harvard.edu/news/uk/08/05/building-new-structure-school-leadership

Enak Ali, Ridzwan Che'Rus, Mohd Adib Haron & Mohd Azlan Mohammad Hussain. (2018). Employability of technical and vocational education graduates: An analysis. *Sains Humanika, 10*(3), 9-15.

European Commission. (2013). *Supporting teacher competence development*. Retrieved from http://ec.europa.eu/dgs/education_culture/repository/education/policy/school/doc/teachercomp_en.pdf

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods. 4*(3), 272-299.

Faith, J. A. (2014). *Perceived relationship between employee academic qualifications and job performance in Mukuru Slums Development Project, Nairobi County* (master's thesis). University of Nairobi, Nairobi

Fakhra Aziz, Qudsia Kalsoom, & Uzma Quraishi. (2017). Perceptions on gender-based differences in educational leadership. *Management Leadership, 31*(2),75-81.

Farhat Shaheen, Naveed Ahmad, Muhammad Waqas, Abdul Waheed, & Omer Farooq. (2017). Structural Eqation Modeling(SEM) in social sciences & medical research: A guide for improved analysis. *International Journal of Academic Research in Business and Social Science, 7*(5), 132-143.

Farr, S. (2010). *Teaching as leadership*. San Francisco, CA: Josey-Bass.

Farrell, T. S. C. (2016). *From trainee to teacher: Reflective practice for novice teachers*. Sheffield, UK: Equinox Publishing.

Fernandez-Chung, R. M. & Ching, L. Y. (2018). TNE graduate employment study: An analysis of graduate employment trends in Malaysia-A three phase study. Retrieved from https://www.britishcouncil.org/sites/default/files/tne_final_export_pdf.pdf

Fiedler, F. E. (1967). *A theory of leadership effectiveness*. New York: McGraw-Hill Book Company.

Firestone, W. A., Mangin, M. M., Martinez, M. C., & Polovsky, T. (2005). A leading coherent professional development: A comparison of three districts. *Educational Administration Quarterly, 41*(3), 413-448.

Firestone, W. A. (2014). Teacher evaluation policy and conflicting theories of motivation. *Educational Researcher*, *43*(2), 100-107.

Fon, T. P. (2016). A study of teachers' perceptions of involvement in decision making within secondary schools in Cameroon. *Journal of Educational and Social Research, 6*(2), 165-175.

Fornell, C. & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 39-50.

Frick, W. C., & Browne-Ferrigno, T. (2016). Formation of teachers as leaders: Response to the articles in this special issue. *Journal of Research on Leadership Education, 11*(2), 222-229.

Futernick, K. (2010). Incompetent teachers or dysfunctional systems?. *Kappanmagazine.org, 92(2)*, 59-64.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a nation sample of teachers. *American Educational Research Journal, 38*(4), 915-945.

George, D., & Mallery, P. (2003). SPSS for windows step by step: A simple guide and reference. 11.0 update (4th ed). Boston: Allyn & Bacon.

Geringer, J. (2003). Reflections on professional development: Toward high-quality teaching and learning. *SAGE Journals, 84*(5), 373-380.

Golding, L., & Gray, I. (2006). Continuing professional development-A brief guide. *The Psychologist*, 19, 530-533.

Google for Education. (2017). *Teacher status in Finland*. Retrieved from https://static.googleusercontent.com/media/edu

Gordon, T. (1955). *Group-centered leadership: A way of releasing the creative power of groups*. Boston: Houghton Mifflin.

Gronn, P. (2000). Distributed properties: A new architecture for leadership. *Educational Management Administration Leadership, 28*(3), 317-338.

Gronn, P. (2002). Distributed leadership as a unit of analysis. *The Leadership Quarterly, 13*(4), 423-451.

Guarino, C. M., Reckase, M. D., & Wooldridge, J. M. (2012). *Can value-added measures of teacher performance be trusted?* (Discussion Paper No. 6602). Retrieved from http://hdl.handle.net/10419/62407

Gunzler, D., Chen, T., Wu, P. & Zhang, H. (2013). Introduction to mediation analysis with structural equation modeling. *Shanghai Archives of Psychiatry, 25*(6), 390-394.

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and teaching: theory and practice, 8*(3/4), 381-391.

Guskey, T. R. (2016). Gauge impact with 5 levels of data. *Theme: Explore the Standards for Professional Learning, 37*(1), 32-37.

Guyton, E., & Farokhi, E. (1987). Relationships among academic performance, basic skills, subject matter knowledge, and teaching skills of teacher education graduates. *Journal of Teacher Education*, *38*(5), 37–42.

Halah Ahmed Alismail, & Patrick, M. (2015). 21st century standards and curriculum: Current research and practice. *Journal of Education and Practice, 6*(6), 150-154.

Hamre, B. K., Pianta, R. C., Downer, J. T., DeCoster, J., Mashburn, A. J., Jones, S. M., Brown, J. L., Cappella, E., Atkins, M., Rivers, S. E., Hamagami, A. (2013). Teaching through interactions. *The Elementary School Journal, 113* (4), 461-487.

Harris, A., & Muijs, D. (2003). Teacher leadership: A review of the research. Retrieved from https://www.researchgate.net/profile/Alma_Harris/publication/238508986_Teacher_Leadership_A_Review_of_Research

Harris, A. (2003). Teacher leadership as distributed leadership: heresy, fantasy or possibility?. *School Leadership & Management, 23*(3), 313-324.

Harrison, C., & Killion, J. (2007). Ten roles for teacher leaders. *Teachers as Leaders, 65*(1), 74-77.

Hawai'i Teacher Standards Board. (2014). *Hawaii teacher performance standards*. Retrieved from https://hawaiiteacherstandardsboard.org/content/teacher-performance-standards/

Helbert, J. (2015). Developing high quality teacher leadership in a primary school (Paper submitted to the Scottish College for Educational Leadership Fellowship Programes). Retrieved from http://www.scelscotland.org.uk/wp-content/uploads/2016/07/Developing-High-Quality-Teacher-Leadership-in-a-Primary-school

Henman, Linda. (2017). *Leadership: Theories and controversies*. Retrieved from www.henmanperformancegroup.com

Hersey, P., & Blanchard, K. H. (1988). *Management of organizational behavior* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.

Hertzog, M.A. (2008). Considerations in determining sample size for pilot studies. *Research in Nursing & Health*, 31, 180-191.

Hill, H. C., Beisiegel, M., & Jacob, R. (2013). Professional development research: Consensus, crossroads and challenges. *Educational Researcher, 42*(9), 476-487.

Hindin, M. J. (2007). Role Theory. In George Ritzer (Ed). The Blackwell *Encyclopedia of Sociology* (pp. 3959-3962). Retrieved from https://doi.org/10.1002/9781405165518.wbeosr078

Hou, S. H., Horng, R. Y., & Chen, P. H. (2016). Professional development in practice: An exploratory study with attending physicians. *Comprehensive Psychology*, 5, 1-11.

Hopkins, P. (2016). Teacher voice: How teachers perceive evaluations and how leaders can use this knowledge to help teachers grow professionally. *NASSP Bulletin, 100*(1), 5-25.

Howe, N., & Strauss, W. (2007). The nest 20 years: How customer and workforce attitudes will evolve. *Harvard Business Review*, 41-52.

Hox, J., & Bechger, T. (1998). An introduction to structural equation modelling. *Family Science Review*, 11(354-373).

Hoy, W.K. & Miskel, C.G. (2001). *Educational administration: Theory, research and practice* (6th ed.). Boston: McGraw-Hill.

Huang, B. (2016). Transformation and framework of teacher professional development in Taiwan. *Policy Futures in Education, 14*(7), 926-942.

Hunzicker, J. (2017). From teacher to teacher leader: A conceptual Model. *International Journal of Teacher Leadership, 8*(2), 1-27.

Jackson Public Schools. (1999). *Teacher Performance Evaluation*. Mississippi: Jackson Public School District.

James, C. (2011). *Theory of Change Review: A report commissioned by Comic Relief*. London: Comic Relief.

Jasper, M. (2006). *Professional development, reflection and decision-making*. Victoria, Australia: Blackwell Publishing.

Jemaah Nazir dan Jaminan Kualiti. (2017). *Standard Kualiti Pendidikan Malaysia Gelombang 2*. Putrajaya: Kementerian Pendidikan Malaysia.

John, L., & Stephen, W. (1996). *Theories of human communication*. United States of America: Wadsworth.

Jones, J., Jenkin, M., & Lord, S. (2006). *Developing effective teacher performance*. London: Paul Chapman Publishing.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31-36.

Kamarol Baharen Mohd Rom, & Johan@Eddy Luaran. (2011, July). *Peranan kepimpinan guru mempengaruhi keberkesanan pengajaran dan pembelajaran Sejarah dalam iklim bilik darjah*. Paper presented at Seminar Sejarah dan Geografi, Universiti Malaysia Sabah, Sabah.

Katzenmeyer, M., & Moller, G. (2001). *Awakening the sleeping giant: Helping teachers develop as leaders*. Newbury Park, CA: Corwin Press.

Katzenmeyer, M., & Moller, G. (2009). *Awakening the sleeping giant: Helping teachers develop as leaders* (3rd ed.). Thousand Oaks, CA: Corwin Press.

Kelley, J. D. (2011). *Teacher's and teacher leaders' perceptions of the formal role of teacher leadership* (Doctoral dissertation, Georgia State University). Retrieved from http://scholarworks.gsu.edu/eps_diss/70

Kementerian Pendidikan Malaysia. (2013). *Pelan Pembangunan Pendidikan Malaysia (PPPM) 2013-2025*. Putrajaya: Kementerian Pendidikan Malaysia.

Kementerian Pendidikan Malaysia. (2014). *Pelan Pembangunan Professional Berterusan (Guru dan Pemimpin Sekolah)*. Putrajaya: Kementerian Pendidikan Malaysia.

Kementerian Pendidikan Malaysia. (2015). *Laporan Tahunan 2015*. Putrajaya: Kementerian Pendidikan Malaysia.

Kementerian Pendidikan Malaysia. (2016). *Standard Prestasi Pegawai Perkhidmatan Pendidikan Edisi Awal*. Putrajaya: Kementerian Pendidikan Malaysia.

Kerlinger, F. (1973). *The structure of scientific revolution*. Chicago: University of Chicago Press.

Kennedy, M. M. (2016). How does professional development improve teaching? *Review of Educational Research, 86*(4), 945-980.

Killion, J. (2017). Critical questions remain unanswered in research on teacher leadership. *The Learning Professional, 38*(4), 22-25.

Kirkpatrik, S. A., & Locke, E. A. (1991). Leadership: Do traits matter? *The Executive, 5*(2), 48-60.

Kis, A., & Konan, N. (2014). A meta-analysis of gender differences in terms of teacher views on the instructional leadership behaviour of principals. *Educational Science: Theory & Practice, 14*(6), 2139-2145.

Kline, P. (2000). The handbook of psychological testing (2nd ed.). London: Routledge.

Kline, R. B. (2011). *Methodology in the Social Sciences. Principles and practice of structural equation modeling* (3rd ed.). New York, NY, US: Guilford Press.

Knight, S. L., Llyod, G. M., Arbaugh, F., Gamson, D., McDonald, S. P., Nolan Jr, J., & Whitney, A. E. (2014). Performance assessment of teaching: Implications for teacher education. *Journal of Teacher Education, 65*(5), 372-374.

Koellner, K., & Jacobs, J. (2015). Distinguishing models of professional development: The case of an adaptive model's impact on teachers' knowledge, instruction, and student achievement. *Journal of Teacher Education, 66*(1), 51-67.

Koh, J. H. L., Chai, C. S., & Lim, W. Y. (2016). Teacher professional development for TPACK-21 CL: Effects on teacher ICT integration and student outcomes. *Journal of Educational Computing Research, 0*(0), 1-25.

Konrad, S. C., & Gabrijelcic, M. K. (2014). The importance of teacher's emotional intelligence in a teacher's professional development. *Didactica Slovenica, 29*(2), 3-17.

Ko, W., & Chung, F. (2014). Teaching quality, learning satisfaction, and academic performance among hospitality students in Taiwan. *World Journal of Education, 4*(5), 11-20.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size research activities. *Educational and Psychological Measurement*, 30, 607-610.

Lai, E., & Cheung, D. (2015). Enacting teacher leadership: the role of teachers in bringing about change. *Educational Management Administration & Leadership, 43*(5), 673-692.

Lattimer, H. (2007). To help and not hinder. *Educational Leadership, 65*(1), 70-73.

Learning & Development Program Calendar. (2018). Bahagian Sumber Manusia. Kementerian Kemajuan Luar Bandar dan Wilayah.

Leithwood, K., Jantzi, D. Ryan, S., & Steinbach, R. (1997, March). *Distributed leadership in secondary Schools*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago.

Lieber, L. D. (2010). How HR can assist in managing the four generations in today's workplace. *Employment Relations Today, 36*(4), 85-91.

Locke, E. A., & Latham, G. P. (2004). What should we do about motivation theory? Six recommendations for the twenty-first century. *Academy of Management Review, 29*(3), 388-403.

Lynch, S. M. (2006). *Introduction to applied Bayesian statistics and estimation for social scientists*. New York: Springer Science + Business Media, LLC.

MacNell, Lillian; Driscoll, Adam; and Hunt, Andrea N. (2015). What's in a Name: Exposing Gender Bias in Student Ratings of Teaching. *Journal of Collective Bargaining in the Academy, 0*(52), 1-13.

Maddala, G. S. (1992). *"Outliers". Introduction to econometrics.* (2nd ed.). New York: MacMillan.

Maissan, R., & Perry, F. (2018). Using digital peer observation to balance professional development and performance evaluation. *Journal of Academic Language & Learning, 12*(1), A33-A47.

Majlis Amanah Rakyat. (2018). *Learning & Development Program Calendar 2018*. Kuala Lumpur: Bahagian Sumber Manusia, MARA.

Mann, P. S. (2005). *Introductory statistics: Using Technology*. 5th ed. Massachusetts: John Wiley & Sons, Inc.

Marrongelle, K., Sztajn, P. & Smith, M. (2013). Scaling up professional development in an era of common state standards. *Journal of Teacher Education, 64*(3), 202-211.

Martin, C. A. (2005). From high maintenance to high productivity. *Industrial and Commercial Training, 37*(1), 39-44.

Masood Badri, Ali Alnuaimi, Jihad Mohaidat, Yang, G. & Asma Al Rashedi. (2016). Perception of teachers' professional development needs, impacts, and barriers: The Abu Dhabi Case. *SAGE Open*, 1-15.

McMillan, J. H. (2008). *Educational Research: Fundamentals for the consumer.* 5th ed. Virginia: Pearson Education.

Meier, J., Austin, S. F., & Crocker, M. (2010). Generation Y in the workforce: Managerial Challenges. *The Journal of Human Resource and Adult Learning, 6*(1), 68-78.

Meyers, C., Molefe, A., Brandt, W. C., Zhu, B. & Dhillon, S. (2016). Impact results of the eMINTS professional development validation study. *Educational Evaluation and Policy Analysis, 38*(3), 455-476.

Middlewood, D. & Cardno, C. (Eds.). (2001). *Managing teacher appraisal and performance*. London: RoutledgeFalmer.

Milanowski, A. (2017). Lower performance evaluation practice ratings for teachers of disadvantaged students: Bias or reflection of reality. *AERA Open, 3*(1), 1-16.

Ministerial Council on Education, Employment Training and Youth Affairs. (2003). A national framework for professional standards for teaching. Retrieved from http://www.curriculum.edu.au/verve/_resources/national_framework_file.pdf

Mizell, H. (2010). *Why professional development matters*. Retrieved from www.learningforward.org/advancing/whypdmatters.cfm

Mohd Yusri Ibrahim. (2010). *Analisis Data Penyelidikan*. Kuantan: Bandar Ilmu.

Mokoena, S. (2012). Recruiting and retaining generation Y teachers: Emerging strategies for school administrators. *International Journal for Cross-Disciplinary Subjects in Education, 3*(1), 687-691.

Moss, J. T. (2015). *The Danielson model of teacher evaluation: Exploring teacher perceptions concerning its value in shaping and improving instructional practice* (Doctoral dissertation, Seton Hall University). Retrieved from http://scholarship.shu.edu/dissertations

Muijs, D. & Harris, A. (2003). Teacher leadership-Improvement through empowerment?. *Educational Management & Administration, 31*(4), 437-448.

Muijs, D. & Harris, A. (2007). Teacher leadership in (In)action: Three case studies of contrasting schools. *Educational Management Administration & Leadership, 35*(1), 111-134.

Mukeredzi, T. G. (2013). Professional development through teacher roles: Conceptions of professionally unqualified teachers in rural South Africa and Zimbabwe. *Journal of Research in Rural Education, 28*(11), 1-14.

Mulder, P. (2015). *McGregor Theory X and Theory Y*. Retrieved from https://www.toolshero.com/leadership/mcgregor-theory/

Murphy-Latta, T. (2008). A comparative study of professional development utilizing the Missouri Commissioner's award of excellence and indicators of student achievement. *ProQuest*, (19).

Myers, K. K. & Sadaghiani, K. (2010). Millenials in the workplace: A communication perspective on millenials' organizational relationships and performance. *J Bus Psychol*, 25, 225-238.

Mylles, J. & Frost, D. (2006). Building teacher leadership in Hertfordshire. *SAGE Publications, 9*(1), 69-76.

Nagaraj S., Nai-Peng T., Chiu-Wan N., Kiong-Hock L., Pala J. (2015) *Counting Ethnicity in Malaysia: The Complexity of Measuring Diversity*. In: Simon P., Piché V., Gagnon A. (eds) Social Statistics and Ethnic Diversity. IMISCOE Research Series. Springer, Cham.

National Education Association. (2018). *The Teacher Leadership Competencies*. Retrieved from http://www.nea.org/assets/docs/NEA_TLCF_20180824.pdf

National Staff Development Council. (2001). *Maryland Teacher Professional Development Standards*. Retrieved from mdk12.msd.maryland.gov/instruction/professional_development/teachers_standards.html

Nelson, D. L. Reed, V. S. & Walling, J. R. (1976). Pictorial superiority effect. *Journal of Experimental Psychology: Human Learning and Memory, 2*(5), 523.

Ng, T. W. H. & Feldman, D. C. (2009). How broadly does education contribute to job performance? *Personnel Psychology*, 62, 89-134.

Nigro, F. A. (1968). The implications for public administration. *Public Administration Review*, 137-147.

Norashikin Abu Bakar, Ramli Basri & Fooi, F. S. (2015). Hubungan kepimpinan Guru dengan pencapaian akademik pelajar. *International Journal of Education and Training, 1*(2), 1-11.

Nor Adzimah Subirin, Nor Hayati Alwi, Fathiyah Mohd Fakhruddin, Umi Kalthom Abdul Manaf & Siti Suria Salim. (2017). Ulul albab generation: Roles of ulul albab teachers in Malaysian selected school. *International Journal of Academic Research in Business and Social Sciences,* 7, 1022-1032.

Nor Adzimah Subirin, Nor Hayati Alwi, Fathiyah Mohd Fakhruddin, Umi Kalthom Abdul Manaf, Siti Suria Salim, Siti Aishah Hassan, Shamsudin Othman & Nurul Jawahir Mohd Ali. (2018). Three main components for ulul albab teachers' professional development programme theory. *International Journal of Academic Research in Business & Social Sciences, 8*(10), 1005-1019.

Nor Asma Sheirnawani Abdul Rahman, Mohd Asri Mohd Noor, Rohaila Yusof & Hamidah Yusof. (2015). Kesahan model amalan kepimpinan. *Jurnal Kurikulum & Pengajaran Asia Pasifik, 3*(2), 1-11.

Nooriah Yusof, Zakiah Jamaluddin & Norain Mat Lazim. (2013). Persepsi pelajar prasiswazah terhadap kebolehpasaran graduan dan persaingan dalam pasaran pekerjaan. *Jurnal Personalia Pelajar*, 16, 77-92.

Norma Ghamrawi. (2010). No teacher left behind: Subject leadership that promotes teacher leadership. *Educational Management Administration & Leadership, 38*(3), 304-320.

Norris, M & Lecavalier, L. (2009). Evaluating the use of exploratory factor analysis in developmental disability psychological research. *Journal of autism and developmental disorders. 40*(1), 8-20.

Nolan, B. & Palazzolo, L. (2011). New teacher perceptions of "teacher leader" movement. *NASSP Bulletin, 95*(4), 302-318.

Nunnally, J. C. (1978). *Psychometric theory, 2nd ed*. New York: McGraw Hill.

Nurul Afiqah Ahmadoon. (2013). *Pelaksanaan program pembangunan profesionalisme dan hubungannya dengan komitmen guru di sekolah menengah agama Kerajaan Johor* (Master Thesis). Universiti Teknologi Malaysia, Johor.

Oracion, C. C. (2014). *Teacher leadership in public schools in the Philippines* (Doctoral dissertation, University of London). Retrieved from http://eprints.ioe.ac.uk/21652/1/Thesis-final.pdf

Oregon Department of Education. (2017). *Oregon framework for teacher and administrator evaluation and support systems*. Retrieved from http://www.oregon.gov/ode/Pages/default.aspx

Organisation for Economic Co-operation and Development (OECD). (2013). *Teaching and learning international survey (TALIS) 2013* [teacher questionnaire]. Retrieved from www.oecd.org/edu/school/TALIS-2013-Teacher-questionnaire.pdf

Organisation for Economic Co-operation and Development (OECD). (2009). *Creating effective Teaching and Learning environment: First results from TALIS*. Retrieved from https://www.oecd.org/edu/school/43023606.pdf

Othman Talib. (2013). *Asas penulisan tesis penyelidikan dan statistik*. Serdang: Penerbit Universiti Putra Malaysia.

Ott, R. L. & Longnecker, M. (2001). *An introduction to statistical methods and data analysis* (5th ed). Pacific Grove, USA: Duxbury.

Pavlovic, N. (2014). Effects of gender differences on leadership styles through the impact on school environment. *Studia Edukacyjue NR*, 31(305-321).

Pace, A., & Pace, J. (2005). Gender differences in headteacher leadership and management styles: A study of a number of headteachers in Maltese Secondary Schools. *Journal of Maltese Education Research, 3*(1), 61-79.

Pierce, J., & Newstrom, J. (2006). *Leaders and the leadership process: Readings, self-assessments & applications* (4th ed).,Boston: McGraw Hill.

Pounder, J. S. (2006). Transformational classroom leadership: The fourth wave of teacher leadership?. *Educational Management Administration & Leadership, 34*(4), 533-545.

Quah Chun Ho, Aizzat Nasurdin, Guok Eng Chai & Joshua Ignatus. (2009). Are foreign trained graduates better than locals. *E-Leader Tallinn*, 1-10.

Quint, J. (2011). Professional development for teachers: What two rigorous studies tell us. Retrieved from www.mdrc.org/publication/professional-development-teachers

Rahma Al-Mahrooqi, Denman, C., Jamila Al-Siyabi & Faisal Al-Maamari. (2015). Characteristics of a good EFL teacher: Omani EFL teacher and student perspectives. *SAGE Open*, 1-15.

Rahmah Ismail, Ishak Yussof & Lai Wei Sieng. (2011). Employers' perceptions graduates in Malaysian services sector. *International Business Management, 5*(3), 184-193.

Rauch, C. F. & Behling, O. (1984). *Functionalism: Basis for an alternative approach to the study of leadership*. In J. G. Hunt, D. M. Hisking, C. A. Schriesheim and R. Stewart (Eds), Leaders and managers: International perspectives on managerial behaviour and leadership. Elmsford, NY: Pergamon Press.

Razak Ahmad, & Spykerman, N. (2017, January 19). TN 50-journey to the top 20 begins today. *The Star Online.* Retrieved from www.thestar.com.my

Reinhorn, S. K., Johnson, S. M. & Simon, N. S. (2017). Investing in development: Six high-performing, high-poverty schools implement the Massachusetts teacher evaluation policy. *Educational Evaluation and Policy Analysis, XX*(X), 1-24.

Rinker, T. (2014). On the treatment of Likert Data. Retrieved from https://www.researchgate.net/publication/262011454

Robbins, S. P. & Judge, T. (2005). *Essentials of organizational behaviour (8th ed.)*. India: Prentice-Hall of India Pvt. Limited.

Saedah Siraj & Mohammed Sani Ibrahim. (2013). *Standard Kompetensi Guru Malaysia*. UM Repository. Retrieved from http://repository.um.edu.my/id/eprint/25208

Sahlberg, P. (2011). *The professional educator: Lessons from Finland*. Retrieved from https://www.aft.org/periodical/american-educator/summer-2011/professional-educator

Salkind, N. J. (2003). *Exploring Research* (5th ed.). New Jersey: Prentice Hall.

Sandvik, L., Erikssen, J., Mowinckel, P. & Rodland, E. A. (1996). A method for determining the size of internal pilot studies. *Stat Med. 15*(14): 1587-1590.

Schumacker, R. E. & Lomax, R. G. (2010). *A beginner's guide to structural equation modelling*. New York: Routledge Taylor and Francis Group.

Sharma, P., & Pandher, J. S. (2018). Teachers' professional development through teachers' professional activities. Journal of Workplace Learning. Retrieved from https://doi.org/10.1108/JWL-02-2018-0029

Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of Economics, Commerce and Management, 2*(11), 1-22.

Siti Rafiah Abd Hamid, Sharifah Sariah Syed Hassan & Nik Ahmad Hisham Ismail. (2012). Teaching quality and performance among experienced teachers in Malaysia. *Australian Journal of Teacher Education, 37*(11), 84-103.

Skedsmo, G. & Huber, S. G. (2018). Teacher evaluation: The need for valid measures and increased teacher involvement. *Educational assessment, evaluation and accountability, 30*(1), 1-5.

Sliskovic, A. & Maslic Sersic, D. (2011). Work stress among university teachers: Gender and position differences. *Arh Hig Rada Toksikol, 62*, 299-307.

Speck, M. & Knipe, C. (2005). *Why can't we get it right? Designing high-quality professional development for standards-based schools*. Thousand Oaks, CA: Corwin Press.

Spillane, J., Halverson, R. & Diamond, J. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies, 36*(1), 3-34.

Stachowiak, S. (2013). Pathways for change: 10 theories to inform advocacy and policy change efforts. *Centre for Evaluation Innovation. Seattle*, WA: ORS Impact.

Steinberg, M. & Garrett, R. (2016). Classroom composition and measured teacher performance: What do teacher observation scores really measure?. *Educational Evaluation and Policy Analysis, 38*(2), 293-317.

Stodgill, R. M. (1974). *Handbook of leadership: A survey of the literature*. New York: Free Press.

Stoelinga, S. R. (2010). At the intersection of principal and teacher instructional leadership: The case of Donaldson Elementary. *Journal of Cases in Educational Leadership, 13*(2), 21-28.

Sugg, S. A. (2013). *The relationship between teacher leadership and student achievement* (Doctoral dissertation, Eastern Kentucky University). Retrieved from http://encompass.eku.edu/etd

Suhana Md Yusoff. (2013). *A case study on novice teachers induction program* (Master's thesis). Universiti Teknologi Malaysia, Johor.

Sullivan, S., Shulman, V. & Glanz, J. (2002). Good intentions, questionable results. *Education and Urban Society, 34*(4), 451-476.

Tannenbaum, R., Weschler, I., & Massarik, F. (2013). *Leadership and organization: A behavioral science approach*. New York: Routledge.

Teacher Leadership Exploratory Consortium. (2008). *Teacher leader model standards*. Retrieved from http://www.gtlcenter.org/sites/default/files/docs/TeacherLeaderModelStandards.pdf

Terry, P. M. (2017). Empowering teachers as leaders. *National Forum Journals*. Retrieved from http://www.nationalforum.com/Electronic%20Journal%20Volumes/Terry,%20paul%20M.%20Empowering

The Glossary of Educational Reform. (2017). Professional Development. Retrived from edglossary.org/professional-development/

The Kouzes & Posner Leadership Framework. (2015). *Developing your leadership style with the Kouzes and Posner leadership framework*. Retrieved from http://leadingfigures.com/resources/DevelopingYourLeadershipStyleWithKouzesAndPosner.pdf

The Sutton Trust. (2015). *Developing teachers: Improving professional development for teachers*. Retrieved from https://www.suttontrust.com/wp-content/uploads/2015/01/DEVELOPING_TEACHERS-FINAL.pdf

Thompson, M. & Goe, L. (2009). *Models for effective and scalable teacher professional development*. Retrieved from http://www.ets.org/research/contact.html

Thorpe, R., Gold, J. & Lawler, J. (2011). Locating distributed leadership. *International Journal of Management Reviews*, 13, 239-250.

Timperley, H. S. (2005). Distributed leadership: developing theory from practice. *Journal of Curriculum Studies, 00*(0), 1-26.

Timperley, H. (2005). *Teacher professional and learning development* (Report of the International Academy of Education). Retrieved from http://www.curtin.edu.au/curtin/dept/smec/iae

Treece, E. W. & Treece, J. W. (1982). Elements of research in nursing (3rd ed.). St. Louis, MO:Mosby.

Universiti Utara Malaysia. (2016). *Postgraduate academic handbook 2016/2017 session*. Sintok: Universiti Utara Malaysia.

Vagias, Wade M. (2006). *Likert-type scale response anchors*. Clemson International Institute for Tourism & Research Development. Department of Parks, Recreation and Tourism Management: Clemson University.

Veloo, A. & Zolkepli, W. H. (2011). Atribut sistem penilaian prestasi dengan kepuasan kerja dalam kalangan guru. *International Journal of Management, 18*(1), 197-216.

Villiers, E. & Pretorius, S. G. (2012). A changing leadership paradigm: South African Educators' perceptions of the dimensions of a healthy school culture for teacher leadership. *Journal of Social Science, 32*(2), 205-219.

Vogel, I. (2012). *Review of the use of 'Theory of Change' in International Development*. London: DFID.

Wan Norhasma Wan Hassan & Nurahimah Mohd Yusoff. (2019). SKPMg2 (Standard 4) as tools to upgrade teachers' teaching quality. *Journal of Educational Research and Indigenous Studies Issue, 1*(1), 1-11.

Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. *Review of Educational Research, 79*(2), 702-739.

Weiss, C. (1995). Nothing as practical as good theory: Exploring theory-based evaluation for comprehensive community initiatives for children and families in Connell, J, Kubish, A, Schorr, L, & Weiss, C. (Eds.) '*New approaches to evaluating community initiatives*'. Washington: Aspen Institute.

Wenner, J. A. & Campbell, T. (2016). The theoretical and empirical basis of teacher leadership: A review of the literature. *Review of Educational Research, XX*(X), 1-38.

Wills, A. (2015). *A case study of teacher leadership at an elementary school* (Doctoral dissertation). Retrieved from http://digitalcommons.sacredheart.edu/edl

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models an evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement, 73*(6), 913-934.

Wragg, E. C., Haynes, G. S., MPhil, Wragg, C. M. & Chamberlin, R. P. (1995). *Managing Incompetent Teachers*. Paper presented at The British Educational Research Association Annual Conference, England.

Yendol-Hoppey, D. & Dana, N. F. (2010). *Powerful professional development*. California: Corwin.

Yukl, G. (2013). *Leadership in organizations* (8th ed.). New Jersey: Pearson Education.

York-Barr, J. & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research, 74*(3), 255-316.

Zainudin Awang. (2012). *Research methodology and data analysis* (2nd ed.). Shah Alam: UiTm Press.

Zainudin Awang. (2015). *SEM made simple: A gentle approach to learning structural equation modelling*. Bangi: MPWS Rich Publication Sdn. Bhd.

Zimpher, N. L. (1988). A design for the professional development of teacher leaders. Journal of Teacher Education, *SAGE Journals, 39*(1), 53-60.

Zulfaka Ishak, Nor Aishah Buang & Lilia Halim. (2014). Ciri-ciri dan tahap pemikiran sains keusahawanan: Kesediaan integrasi pemikiran keusahawanan dalam proses pengajaran guru-guru sains di MRSM. *Jurnal Kepimpinan Pendidikan, 1*(1), 53-64.

Appendix A: Permission from Marilyn Katzenmeyer

Appendix B: Permission from OECD

Appendix C : Permission From Danielson Group LLC

BORANG SOAL SELIDIK

Tuan/Puan,

Saya sedang menjalankan kajian dalam kalangan guru-guru di MRSM di seluruh negara. Oleh itu, saya amat berharap tuan/puan dapat membantu secara sukarela untuk memastikan kejayaan pengumpulan data bagi kajian ini.

Untuk makluman tuan/puan tidak ada mana-mana satu jawapan yang salah atau betul. Tuan/Puan hanya diminta agar dapat memberikan jawapan dengan jujur. Borang soal selidik ini mengandungi **EMPAT (4)** Bahagian. Sila baca arahan bagi setiap bahagian dan **sila jawab kesemua** item soal selidik yang disediakan.

Jawapan tuan/puan adalah dianggap **sulit** dan tuan/puan **tidak perlu menyatakan nama** tuan/puan di mana-mana bahagian dalam soal selidik ini. Semua maklumat yang diberikan adalah semata-mata untuk kajian akademik.

Kerjasama dan kesudian tuan/puan menjawab soal selidik ini amatlah dihargai dan didahului dengan ucapan ribuan terima kasih.

Yang benar,

WAN SUHAILA BT WAN YAACOB wsuhaila@gmail.com / **suhaila.yaacob@mara.gov.my**
UUM College of Arts & Sciences
Educational Studies
UUM, 06010 Sintok, Kedah

Soal selidik ini mengandungi 7 halaman bercetak termasuk muka depan

BAHAGIAN 1 : DEMOGRAFIK

ARAHAN: *Sila berikan maklumat-maklumat berikut*

1. Jantina Anda

1 ☐ Lelaki

2 ☐ Perempuan

2. Umur Anda

1 ☐ 50 – 59 tahun

2 ☐ 40 – 49 tahun

3 ☐ 30 – 39 tahun

4 ☐ 20 – 29 tahun

3. Latarbelakang Kelulusan Anda

1 ☐ Siswazah (Universiti dalam negara)

2 ☐ Siswazah (Universiti luar negara)

4. Kelulusan Akademik Anda (Ijazah Sarjana Muda)

1 ☐ PNG 3.50 – 4.00 (atau setara)

2 ☐ PNG 3.00 – 3.49 (atau setara)

3 ☐ PNG 2.50 – 2.99 (atau setara)

4 ☐ PNG 2.49 ke bawah (atau setara)

BAHAGIAN 2 : KEPIMPINAN GURU (TEACHER LEADERSHIP)

ARAHAN: *Sila baca setiap pernyataan berikut dan bulatkan nombor yang paling tepat menerangkan sejauh mana anda bersetuju atau tidak bersetuju dengan pernyataan berikut. .*

		Sangat tidak setuju				Sangat setuju
TL1	Saya membuat refleksi tentang kecemerlangan prestasi kerja saya.	1	2	3	4	5
TL2	Saya berfikir cara saya boleh membaiki diri sebagai seorang guru.	1	2	3	4	5
TL3	Saya berurusan dengan rakan sekerja berlandaskan nilai dan falsafah hidup saya	1	2	3	4	5
TL4	Di tempat kerja, saya menunjukkan tingkah laku yang beretika dan prestasi profesional seperti yang dijangkakan.	1	2	3	4	5
TL5	Saya mengajak rakan sekerja untuk bekerja ke arah mencapai visi dan misi sekolah.	1	2	3	4	5
TL6	Saya memimpin rakan sekerja dalam menyelesaikan tugasan.	1	2	3	4	5
TL7	Saya melibatkan rakan sekerja apabila merancang perubahan.	1	2	3	4	5
TL8	Saya berusaha ke arah meningkatkan budaya sekolah yang positif.	1	2	3	4	5
TL9	Saya meluangkan masa dan berusaha membentuk satu pasukan untuk meningkatkan pencapaian sekolah.	1	2	3	4	5
TL10	Saya mendapatkan perspektif pihak lain dengan tepat.	1	2	3	4	5
TL11	Saya membuat refleksi tentang pemikiran dan perasaan orang lain dengan tepat.	1	2	3	4	5
TL12	Dalam sesi pemudahcaraan secara kumpulan kecil, saya memastikan ahli kumpulan sentiasa diberi tugasan yang disiapkan dalam tempoh masa yang ditetapkan.	1	2	3	4	5
TL13	Saya memahami kepentingan budaya sekolah dalam meningkatkan pencapaian pelajar.	1	2	3	4	5
TL14	Saya menghormati nilai-nilai dan kepercayaan yang mungkin berbeza daripada saya.	1	2	3	4	5
TL15	Saya bekerja secara berkesan walaupun bukan dengan pendidik atau orang yang berkepentingan khas.	1	2	3	4	5
TL16	Saya berusaha bersungguh-sungguh untuk mendapat kepercayaan dan memahami nilai-nilai orang lain.	1	2	3	4	5
TL17	Saya menggalakkan persekitaran yang positif di dalam kelas.	1	2	3	4	5
TL18	Saya berusaha berterusan untuk memastikan kejayaan semua pelajar.	1	2	3	4	5
TL19	Saya bersikap terbuka untuk berkongsi dengan rakan-rakan.	1	2	3	4	5
TL20	Saya bertindak dengan penuh integriti semasa berurusan dengan pelajar atau orang dewasa.	1	2	3	4	5

TL21	Saya bertindak secara adil apabila berurusan dengan pelajar atau rakan-rakan.	1	2	3	4	5
TL22	Saya mendapatkan semua maklumat yang berkaitan daripada pelbagai sumber sebelum membuat sesuatu keputusan.	1	2	3	4	5
TL23	Sebagai pengerusi mesyuarat, saya memastikan hampir semua ahli mengambil bahagian.	1	2	3	4	5
TL24	Saya mempunyai reputasi sebagai guru yang kompeten.	1	2	3	4	5
TL25	Saya menetapkan matlamat dan memantau perkembangan untuk mencapai matlamat tersebut.	1	2	3	4	5
TL26	Saya menilai dan menggunakan maklumat penilaian tersebut apabila membuat perancangan.	1	2	3	4	5
TL27	Saya melibatkan diri dalam pembangunan profesional dan pembelajaran.	1	2	3	4	5
TL28	Saya bersikap proaktif dalam mengenalpasti masalah dan berusaha untuk menyelesaikannya.	1	2	3	4	5
TL29	Saya berganding bahu dengan rakan-rakan, ibu bapa dan pihak lain untuk membuat penambahbaikan di sekolah atau daerah.	1	2	3	4	5
TL30	Saya membuat perancangan dan jadual dengan teliti supaya saya boleh melaksanakan tugasan demi mencapai matlamat.	1	2	3	4	5
TL31	Saya menunjukkan keyakinan diri apabila menghadapi tekanan.	1	2	3	4	5
TL32	Saya seorang ahli pasukan yang bekerja dengan berkesan.	1	2	3	4	5
TL33	Saya seorang yang berinisiatif dan mempunyai semangat yang diperlukan untuk melaksanakan tugasan bagi memastikan pencapaian keputusan yang dikehendaki.	1	2	3	4	5
TL34	Saya meletakkan keutamaan bagi memastikan terdapat peruntukan masa untuk melaksanakan tugasan penting.	1	2	3	4	5

BAHAGIAN 3 : PEMBANGUNAN PROFESIONALISME (PROFESSIONAL DEVELOPMENT)

ARAHAN: *Sila baca setiap pernyataan berikut dan bulatkan nombor yang paling tepat menerangkan sejauh mana anda bersetuju atau tidak bersetuju dengan pernyataan berikut.*

		Sangat tidak setuju				**Sangat setuju**
PD1	Saya mengambil bahagian dalam kursus induksi.	1	2	3	4	5
PD2	Saya menghadiri persidangan pendidikan atau seminar iaitu guru-guru membentangkan hasil kajian dan mengadakan perbincangan tentang isu-isu pendidikan.	1	2	3	4	5
PD3	Saya telah mengikuti lawatan penanda arasan ke sekolah-sekolah lain.	1	2	3	4	5

PD4	Dalam tempoh 12 bulan yang lepas, saya telah mengikuti kursus untuk meningkatkan kelayakan iktisas saya.	1	2	3	4	5
PD5	Dalam tempoh 12 bulan yang lepas, saya telah melibatkan diri dalam rangkaian kumpulan guru untuk meningkatkan taraf profesionalisme saya.	1	2	3	4	5
PD6	Dalam tempoh 12 bulan yang lepas, saya telah mengikuti program mentoring dan bimbingan sebagai sebahagian daripada program yang diuruskan oleh pihak maktab secara rasmi.	1	2	3	4	5
PD7	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi pengetahuan berkaitan subjek saya.	1	2	3	4	5
PD8	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi kompetensi pedagogi untuk pengajaran.	1	2	3	4	5
PD9	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi pengetahuan tentang kurikulum.	1	2	3	4	5
PD10	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi penilaian dan pentaksiran pelajar.	1	2	3	4	5
PD11	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi kemahiran pengajaran dalam bidang teknologi informasi dan komunikasi.	1	2	3	4	5
PD12	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi pengurusan sikap pelajar dan bilik darjah.	1	2	3	4	5
PD13	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi pengurusan sekolah dan pentadbiran.	1	2	3	4	5
PD14	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi pendekatan kepada pembelajaran secara individu.	1	2	3	4	5
PD15	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi kemahiran pengajaran merentasi kurikulum (cth: penyelesaian masalah, belajar untuk belajar)	1	2	3	4	5
PD16	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi teknologi baharu.	1	2	3	4	5
PD17	Kursus pembangunan guru yang saya ikuti dalam tempoh 12 bulan yang lepas meliputi kemahiran kaunseling dan bimbingan kerjaya.	1	2	3	4	5
PD18	Saya menerima jadual waktu bagi aktiviti pembangunan profesionalisme yang dijalankan pada waktu bekerja di sekolah.	1	2	3	4	5
PD19	Saya menerima gaji tambahan untuk aktiviti pembangunan profesionalisme di luar waktu bekerja.	1	2	3	4	5
PD20	Kursus pembangunan guru yang saya sertai sejak 12 bulan yang lepas dilaksanakan menggunakan teknik pembelajaran secara aktif (bukan sahaja mendengar ceramah).	1	2	3	4	5
PD21	Kursus pembangunan guru yang saya sertai sejak 12 bulan yang lepas dilaksanakan melalui aktiviti pembelajaran secara kolaboratif atau kajian bersama guru-guru lain.	1	2	3	4	5
PD22	Kursus pembangunan guru yang saya sertai sejak 12 bulan yang lepas dilaksanakan dalam tempoh masa yang panjang.	1	2	3	4	5
PD23	Saya tidak memenuhi prasyarat untuk mengikuti kursus pembangunan profesionalisme (kelayakan, pengalaman, kekananan).	1	2	3	4	5
PD24	Kursus Pembangunan Profesionalisme sangat mahal menyebabkan saya tidak mampu menyertainya.	1	2	3	4	5
PD25	Kurang sokongan daripada pengawal pusat terhadap kursus pembangunan profesionalisme.	1	2	3	4	5
PD26	Kursus Pembangunan Profesionalisme bercanggah dengan jadual kerja saya.	1	2	3	4	5

PD27	Saya tidak ada masa untuk menghadiri kursus pembangunan profesionalisme kerana tanggungjawab terhadap keluarga.	1	2	3	4	5
PD28	Tiada insentif ditawarkan untuk penglibatan dalam kursus pembangunan profesionalisme.	1	2	3	4	5

BAHAGIAN 4 : PRESTASI GURU (TEACHER PERFORMANCE)

ARAHAN: *Sila baca setiap pernyataan berikut dan bulatkan nombor yang paling tepat menerangkan sejauh mana anda bersetuju atau tidak bersetuju dengan pernyataan berikut.*

		Sangat tidak setuu				**Sangat setuju**
TP1	Saya berpengetahuan tentang kandungan dan pedagogi pengajaran.	1	2	3	4	5
TP2	Saya mengenali pelajar saya.	1	2	3	4	5
TP3	Saya memilih matlamat pengajaran.	1	2	3	4	5
TP4	Saya berpengetahuan tentang sumber yang digunakan untuk pengajaran.	1	2	3	4	5
TP5	Saya menyediakan sesi pengajaran dan pembelajaran yang selari dengan matlamat pengajaran.	1	2	3	4	5
TP6	Saya menilai pembelajaran pelajar saya.	1	2	3	4	5
TP7	Saya mewujudkan situasi saling menghormati dan bekerjasama dalam kelas.	1	2	3	4	5
TP8	Saya mewujudkan budaya untuk belajar.	1	2	3	4	5
TP9	Saya menguruskan prosedur kelas.	1	2	3	4	5
TP10	Saya menguruskan tingkah laku pelajar.	1	2	3	4	5
TP11	Saya menguruskan persekitaran fizikal kelas.	1	2	3	4	5
TP12	Saya berkomunikasi dengan jelas dan tepat.	1	2	3	4	5
TP13	Saya menggunakan teknik penyoalan dan perbincangan dengan pelajar.	1	2	3	4	5
TP14	Saya fleksibel dan responsif terhadap pelajar.	1	2	3	4	5
TP15	Saya menggalakkan pelajar belajar dan berfikir.	1	2	3	4	5
TP16	Saya menggunakan penilaian dalam pengajaran.	1	2	3	4	5
TP17	Saya memastikan rekod-rekod berkaitan pengajaran tepat dan dikemas kini.	1	2	3	4	5
TP18	Saya berkomunikasi dengan keluarga pelajar.	1	2	3	4	5

TP19	Saya melibatkan diri dalam komuniti pembelajaran profesional.	1	2	3	4	5
TP20	Saya memastikan peningkatan kerjaya saya berlaku secara profesional.	1	2	3	4	5
TP21	Saya menunjukkan tahap profesionalisme yang tinggi.	1	2	3	4	5

SOALAN TAMAT

Terima kasih atas kerjasama yang diberikan.

mara

memograf

Kepada : Seperti yang di bawah

Daripada : Pengarah Bahagian Pendidikan Menengah

Salinan Kepada :

Rujuk Kami	Tarikh	Rujuk Tuan	Bilangan / Tarikh
BPM/PP/03-20	25 September 2017		

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02 OCT 2017
MRSM PASIR TUMBOH
16150 K. BHARU,
KELANTAN

Puan Wan Suhaila binti Wan Yaacob

Melalui :

Pengetua
Maktab Rendah Sains MARA Pasir Tumboh

KEBENARAN MENJALANKAN KAJIAN DI MAKTAB RENDAH SAINS MARA

Dengan hormatnya surat puan berkaitan perkara di atas dirujuk.

Dimaklumkan bahawa permohonan puan untuk menjalankan kajian di MRSM bagi pengajian Ijazah Kedoktoran adalah diluluskan dengan syarat :

i. Kerja-kerja berkaitan tidak akan menjejaskan kepentingan pelajar / staf MRSM.
ii. Satu salinan dapatan kajian hendaklah dihantar kepada Pengarah Bahagian Pendidikan Menengah.
iii. Pihak MRSM / MARA tidak bertanggungjawab atas apa-apa kos yang timbul / terbabit.
iv. Kebenaran perlu diperoleh daripada Bahagian ini sekiranya dapatan kajian tersebut hendak dibentangkan di mana-mana forum, seminar atau untuk diumumkan kepada media massa.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"
'Membandarkan Luar Bandar'

KAMARUZAMAN BIN JAFFAR KMN
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Pengetua MRSM P.T — Tarikh 2/10/17

Kh//

'Keusahawanan dan Pendidikan Global'
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NEGARAKU

Wan Suhaila binti Wan Yaacob
Timbalan Pengetua (Kecemerlangan Akademik)
Maktab Rendah Sains MARA Pasir Tumboh
Desa Darulnaim
16150 Kota Bharu

En Abdul Aziz Bin Baba
Pengetua
Maktab Rendah Sains MARA Pengkalan Chepa
16100 Kota Bharu

1 November 2017

MEMOHON KEBENARAN MENJALANKAN KAJIAN DI MRSM PENGKALAN CHEPA

Dengan segala hormatnya perkara di atas adalah dirujuk.

2. Sukacita dimaklumkan bahawa saya sedang mengikuti pengajian di peringkat Ijazah Kedoktoran (PhD) secara separuh masa di Universiti Utara Malaysia dalam bidang Pendidikan. Sehubungan itu saya ingin memohon kebenaran tuan untuk mengedar soal selidik kajian saya kepada guru-guru di MRSM tuan. Bersama ini disertakan beberapa dokumen sebagai rujukan dan tindakan tuan:

1. Surat kebenaran oleh Pengarah Bahagian Pendidikan Menengah MARA untuk menjalankan kajian di MRSM seluruh Malaysia.
2. Maklumat kajian (Kumpulan sasaran, garis panduan menjawab soal selidik dan lain-lain)
3. Borang soal selidik untuk diedarkan kepada guru-guru Generasi Y di maktab tuan.
4. Sampul surat beralamat sendiri untuk tujuan penghantaran kembali borang soal selidik.

3. Semoga permohonan ini mendapat pertimbangan dan kelulusan dari pihak tuan. Kerjasama yang bakal pihak tuan berikan saya dahului dengan ucapan ribuan terima kasih.

Sekian.

Yang Benar,

(WAN SUHAILA BT WAN YAACOB)